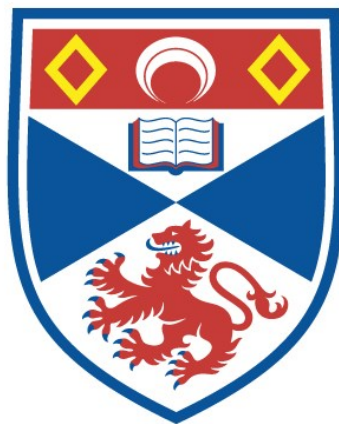


**THE MODERNISATION OF ARABIC VOCABULARY :
A SURVEY OF LINGUISTIC AND CULTURAL
ASPECTS OF LEXICAL DEVELOPMENT**

Fahad A. I. Araik

A Thesis Submitted for the Degree of PhD
at the
University of St Andrews



1991

Full metadata for this item is available in
St Andrews Research Repository
at:
<http://research-repository.st-andrews.ac.uk/>

Please use this identifier to cite or link to this item:
<http://hdl.handle.net/10023/15385>

This item is protected by original copyright

**THE MODERNISATION OF ARABIC
VOCABULARY: A SURVEY OF LINGUISTIC
AND CULTURAL ASPECTS OF LEXICAL
DEVELOPMENT**

FAHAD A. I. ARAIK

A thesis submitted for the degree of Ph.D. in the Faculty of
Arts in the University of St. Andrews

November 1990.



ProQuest Number: 10170762

All rights reserved

INFORMATION TO ALL USERS

The quality of this reproduction is dependent upon the quality of the copy submitted.

In the unlikely event that the author did not send a complete manuscript and there are missing pages, these will be noted. Also, if material had to be removed, a note will indicate the deletion.



ProQuest 10170762

Published by ProQuest LLC (2017). Copyright of the Dissertation is held by the Author.

All rights reserved.

This work is protected against unauthorized copying under Title 17, United States Code
Microform Edition © ProQuest LLC.

ProQuest LLC.
789 East Eisenhower Parkway
P.O. Box 1346
Ann Arbor, MI 48106 – 1346

TH A1296

RESTRICTED

In submitting this thesis to the University of St.Andrews I wish access to it to be subject to the following conditions: for a period of 3 years from the date of submission the thesis shall be withheld from public use.

I understand, however, that the title and abstract of the thesis will be published during this period of restricted access; and that after the expiry of this period the thesis will be made available for public use in accordance with the regulations of the University Library for the time being in force, subject to any copyright in the work not being affected thereby, and a copy of the work may be made and supplied to any bona fide library or research worker.

Signature

Date 15 - 11 - 1990

ABSTRACT

Since the nineteenth century, the modernisation of Arabic vocabulary has been subject of a great concern for Arab scholars who are loyal to the language while aware of the need to adapt it to the demands of the modern world. This thesis attempts to present a comprehensive view of the subject by examining linguistic and extra-linguistic aspects of the process of lexical development in Modern Standard Arabic. The thesis comprises six chapters:

Chapter One : is a brief introduction to the emergence of the movement for cultural and linguistic revival in the Arab world, leaders of linguistic reform, and the Arabic language academies.

Chapter Two: examines the phenomenon of Ishtiqaq (Derivation) in Arabic, and its role in providing the language with native means of generating new lexical items.

Chapter Three: discusses the assimilation of foreign words. It investigates the concept of borrowing in both classical and modern theory, and presents a description

and analysis of this process as adopted for Modern Standard Arabic.

Chapter Four: deals with the methods of Tarkīb and Naht (Compounding and Blending), and assesses their significance in the growth of Arabic vocabulary.

Chapter Five: gives a brief introduction to the question of terminology formation ., and reviews the terminological activities in the Arab world which, aim at the standardization of current terminological work and the creation of a unified Arabic vocabulary.

Chapter Six: provides a brief summary of the conclusions and findings of this study.

DECLARATIONS

I Fahad A. I. Araik, hereby certify that this thesis, which is approximately 70,000 words in length, has ben written by me, that it is the record of work carried out by me and that it has not been submitted in any previous application for a higher degree.

Date 31/10/90 Signature of Candidate

I was admitted as a research student under Ordinance No. 12 in October 1983 and as a candidate for the degree of Ph.D. in May 1984; the higher study for which this is a record was carried out in the University of St. Andrews between 1983 and 1990.

Date 31/10/90 Signature of Candidate

I hereby certify that the candidate has fulfilled the conditions of the Resolution and Regulations appropriate for the degree of Ph.D. in the University of St. Andrews and that the candidate is qualified to submit this thesis in application for that degree.

Date 31/10/90 Signature of Supervisor



DEDICATION

To Muneera, Sarah & Firas

TABLE OF CONTENTS

ABSTRACT	i
ACKNOWLEDGEMENTS	xi
TRANSLITERATION TABLE	xii
ABBREVIATIONS / CONVENTIONS	xiii

CHAPTER ONE

THE REVIVAL OF MODERN STANDARD ARABIC:

<u>A HISTORICAL BACKGROUND</u>	1-12
--	------

CHAPTER TWO

THE PHENOMENON OF AL-ISHTIQĀQ

(DERIVATION) AND ITS ROLE IN THE

<u>DEVELOPMENT OF ARABIC VOCABULARY</u>	13-70
---	-------

2.1	INTRODUCTION	13
2.2	THE CONCEPT OF ISHTIQĀQ	15
2.3	AL-QIYĀS (ANALOGY)	27
2.4	ROOT AND PATTERN COMBINATION	29
2.5	THE ESTABLISHMENT OF SOME PATTERNS AS A MODEL FOR ANALOGICAL DERIVATION	31
2.5.1	MIF'AL - MIF'ALAH - MIF'ĀL - FA'ĀLAH. (NOUNS OF INSTRUMENT)	33
2.5.2	FA'ALĀN: (NOUNS OF COMMOTION AND	

	FLUCTUATION)	38
2.5.3	FU'ĀL - FA'AL (NAMES OF DISEASE)	39
2.5.4	FA'ĀL (NOUNS OF REFERENCE AND RELATION)	40
2.5.5	FI'ĀLAH (NOUNS OF PROFESSION)	40
2.5.6	SUMMARY	41
2.6	ARABIC VERBAL PATTERNS	45
2.6.1	VERBAL PATTERNS SYMBOLIZED	45
2.6.2	FA'ALA	52
2.6.3	FA'ALA	56
2.6.4	FĀ'ALA AND TAFĀ'ALA	57
2.6.5	AF'ALA	58
2.6.6	INFA'ALA	59
2.6.7	ISTAF'ALA	63
2.6.8	FA'LALA	65
2.7	DERIVATION FROM CONCRETE NOUNS	67
2.8	THE USE OF THE SUFFIXES 'ĪY - 'ĪYAH: (YĀ' AL-NISBAH)	69

CHAPTER THREE

THE ASSIMILATION OF FOREIGN WORDS 71-122

3.1	INTRODUCTION	71
3.2	CLASSICAL ARABIC LOAN-WORDS	73
3.3	THE CLASSICAL ARABIC VIEW OF BORROWING	79
3.4	LEXICAL DEVELOPMENT THROUGH BORROWING:	

	THE VIEWS OF MODERN ARAB SCHOLARS	85
3.5	A GENERAL CLASSIFICATION AND ANALYSIS OF LEXICAL BORROWING IN MODERN STANDARD ARABIC	93
3.5.1	INTRODUCTION	93
3.5.2	LOAN WORDS (LOAN-FORMS) - LOAN SHIFTS - LOAN BLENDS	94
3.5.2.1	LOAN SHIFTS	95
3.5.2.1.1	SIMPLE MODEL	95
3.5.2.1.2	COMPLEX MODEL	96
3.5.2.2	LOAN BLENDS	97
3.5.3	LOAN-WORDS (LOAN-FORMS)	98
3.5.3.1	INTRODUCTION	98
3.5.3.2	PHONOLOGICAL INTEGRATION OF LOAN FORMS .	99
3.5.3.3	PATTERN CONGRUITY	102
3.5.3.3.1	CONGRUOUS AND INCONGRUOUS LOAN WORDS .	103
3.5.3.4	THE INFLECTIONAL FORMATION OF LOAN-FORMS	106
3.5.3.4.1	THE PLURAL	108
3.5.3.5	LOAN DERIVATIVES	112
3.6	A BRIEF VIEW OF THE APPLICATION OF LOAN-WORDS IN CONTEMPORARY WRITTEN ARABIC	120

CHAPTER FOUR

THE PROCESSES OF TARKĪB, AND NAHT(COMPOUNDING AND BLENDING) 123-177

4.1	A GENERAL INTRODUCTION AND DEFINITIONS	123
4.1.1	COMPOUND	124
4.1.2	BLEND	125
4.1.3	NAHT	126
4.1.4	TARKĪB (COMPOUNDING IN ARABIC)	132
4.2	TARKĪB AS A MEANS OF NEOLOGISATION	
	IN MODERN STANDARD ARABIC	138
4.2.1	THE TREATMENT OF MODERN	
	TECHNO-SCIENTIFIC COMPOUND	
	TERMS IN ARABIC LEXICOLOGY	142
4.2.1.1	THE TRANSLATION OF EUROPEAN COMPOUND	
	ELEMENTS: (AL-SAWĀBIQ AND	
	AL-LAWĀHIQ)	142
4.2.1.2	AL-KHATEEB'S LIST (1982)	146
4.2.1.3	AL-SAWĀBIQ AND AL-LAWĀHIQ: SUGGESTIONS	149
	OF THE ASSOCIATION OF ARAB PHYSICIANS	
	(AL-LISĀN AL-‘ARABI, 1985, 24: 199) . .	149
4.2.2	VIEWS AND PROPOSALS	150
4.2.3	SUMMARY	154
4.3	NAHT AS A METHOD OF LEXICAL	
	DEVELOPMENT	157
4.3.1	INTRODUCTION	157

4.3.2	THE PHENOMENON OF <u>NAHT</u> IN CLASSICAL ARABIC MATERIAL	157
4.3.3	THE APPLICATION OF <u>NAHT</u> AS A METHOD OF LEXICAL FORMATION (VIEWS OF MODERN ARAB SCHOLARS)	163
4.3.4	GENERAL NOTES AND CONCLUSIONS	163

CHAPTER FIVE

TOWARDS A STANDARDIZED

	<u>TERMINOLOGY IN ARABIC</u>	178-213
5.1	INTRODUCTION	178
5.2	TERMINOLOGY-FORMATION AS A MODERN PHENOMENON: GENERAL ACTIVITIES	179
5.3	TERMINOLOGICAL ACTIVITIES IN THE ARAB WORLD	187
5.3.1	INTRODUCTION:	187
5.3.2	RESEARCH AND TRAINING PROGRAMMES	188
5.3.3	THE SETTING UP OF GUIDELINE PRINCIPLES FOR TERM CREATION IN ARABIC	189
5.3.4	THE COORDINATION OF TERMINOLOGICAL WORK, AND THE FORMATION OF A UNIFIED TERMINOLOGY IN ARABIC	195
5.3.4.1	THE UNION OF ARAB ACADEMICS	198
5.3.4.2.	THE COORDINATION BUREAU OF ARABIZATION	200

5.3.5	UNIFIED GLOSSARIES APPROVED BY THE CONFERENCES ON ARABIZATION	203
5.3.6	TERMINOLOGICAL DATA BANKS	207
5.4	CONCLUSION	209

CHAPTER SIX

<u>CONCLUSIONS</u>	214-218
------------------------------	---------

<u>BIBLIOGRAPHY</u>	219
-------------------------------	-----

ACKNOWLEDGEMENTS

I would like to express my sincere gratitude to Professor John Burton under whose supervision and guidance this work has been prepared. His unfailing patience and his friendly attitude have been invaluable.

I would also like to thank Professor M. Y. Suleiman for his valuable comments and suggestions.

I am grateful to King Saud University in Riyadh for granting me the necessary scholarship funding which enabled me to undertake this study.

Finally, I would like to record my debt to my parents in Saudi Arabia for their love, tolerance and understanding which eased the burden of separation.

TRANSLITERATION TABLE

و	ء	dh	ض
b	ب	t	ط
t	ت	z	ظ
th	ث	‘	ع
j	ج	gh	غ
h	ح	f	ف
kh	خ	q	ق
d	د	k	ك
ḍ	ذ	l	ل
r	ر	m	م
z	ز	n	ن
s	س	h	ه
sh	ش	w	و
ṣ	ص	y	ي

Vowels

Short Vowels:

a	=	fathah
i	=	kasrah
u	=	dhammah

Long Vowels:

ā	=	fathah	+	alif (ا)
ī	=	kasrah	+	yā' (ي)
ū	=	dhammah	+	wāw (و)

ABBREVIATIONS / CONVENTIONS

c	consonant
v	vowel
masc	masculine
fem	feminine
sg	singular
du	dual
pl	plural
Eng	English
Fr	French
tran	transitive
intr	intransitive
MAAA	majallat al Majma' al 'ilmī al 'Arabī
MMAA	majallat majma' al lughah al 'arabīyah
chem	chemistry
phy	physics
+	plus
>	derived from
->	followed by

CHAPTER ONE

THE REVIVAL OF MODERN STANDARD ARABIC: A HISTORICAL BACKGROUND

After a long period of stagnation, the Arab world witnessed a movement of cultural and linguistic revival which began to take place during the last century.

One of the significant developments which gave rise to this movement was the introduction of the Arabic printing press in Egypt during the Napoleonic expedition in 1798.

Through printed books, newspapers, magazines, etc the various aspects of modern advancement gradually came to be within the reach of a large number of Arabic-speaking people. Moreover, new ideas and other innovations have been disseminated through the various missions sent to Europe by Muḥammad 'Alī (1769-1849) for specified training in administration, law, economics, accounting, medicine, naval and military affairs, diplomacy, international relations, and many other fields. On returning home, scholars engaged in these missions transmitted their knowledge and experience to

their people by different means: writing, translating, lecturing, establishing certain organizations for political, social and/or academic purposes.

Another factor behind the revival in the Arab world was the emergence of a number of religious, nationalistic, and linguistic leaders of reform who inspired the feeling among the Arabs that their nation had its honourable achievements in history and great potential for future development.

Leaders of the Arabic reform learned that the preservation of their nation depended to a large extent on the revival of the Standard Arabic which had always been the container of their religious and cultural heritage, and represented a fundamental aspect of their identity and unity.

Thus, the question of adapting the language to the needs of the modern age was also regarded as a major element in the multidimensional process of modernisation in the Arab world.

One of the early leaders of the Arabic movement of reform was *Rifā'ah al-Taḥṭāwī* (1801-1873). He travelled on a study mission to Paris where he witnessed a world

that differed from his native country Egypt. During the five years he spent there , al-Taḥṭāwī learned French, and read a large number of French books some of which he later translated into Arabic. On returning home al-Taḥṭāwī made notable contributions to the Arabic language through these translations.

Al-Taḥṭāwī had also coined a variety of Arabic words designating certain modern Western innovations, like: shawkah (fork), sufrāh (dining table), qahwah (cafe), and qā'imah (a list).

Aḥmad Fāris al-Shidyāq (1804-1887) is rightly considered one of the most important leaders of the modern Arabic revival. He was born in Lebanon where he received his early education before moving to Cairo, where he studied Arabic, grammar, rhetoric, and prosody.

During the nine years he spent in Cairo (1825-1834) al-Shidyāq became the editor of the official journal *al-waqā'i' al-Miḡrīyah*. In 1834 , he was invited to Malta by the American Protestant Mission where he taught Arabic in the missionary school. In 1848, al-Shidyāq travelled to London to participate in the preparation of an Arabic translation of the Bible. In Istanbul, he established a journal *al-jawā'ib* which reported

political, social, and cultural news, besides including articles on different literary trends. One of al-Shidyaq's most important works is *al-jāsūs 'alā al-qāmūs*, a lexicon, and *ṣirr al-layāl* which deals with derivatives of verbs and their origins.¹

Ibrāhīm al-Yāzījī (1847-1906) was another reformer, who left his mark on the development of Modern literary Arabic. His contacts with foreign languages and cultures motivated him to try and establish a new lexicon of literary and scientific terminology in Arabic. Among the contributions made by al-Yāzījī is his coinage of a variety of expressions, which have been in use ever since, like: *barīd* (post) *jarīdah* (newspaper) and *barq* (telegraph).

Among the early scholars who devoted themselves to the Arabic language and its literature were members of the Bustani family.

Butrus al-Bustānī (1819-1883) has been regarded as one of the moving forces behind the literary and national revival (Chejne 1969: 132). He founded a national school in 1870 and the periodic *al-jinān* in

¹ For a detailed account of coinages presented by al-Shidyāq see: al-Qāsimī, 1965. MAAA 40/2.

1870, and was actively engaged in linguistic and literary work which, included the first Arabic Encyclopedia which he did not live to finish. However, in 1870, al-Bustānī published his famous dictionary *muhīt al-muhīt* which has been of great value from the time of its publication. In the introduction to this dictionary al-Bustānī states "It is a duty incumbent upon every Arabic-speaking individual to revive the Arabic language as a matter of patriotic zeal (see Chejne Ibid: 133).

The first attempt on the part of the Arab scholars to establish a joint body for the revival of Arabic was in 1892, when Muḥammad Tawfīq al-Bakrī founded an academy called simply al-majma'. This Majma' met only seven times and had little success, yet it did propose certain neologisms (See Khalīl n.d.: 126) such as *quffāz* (gloves), *mi'taf* (overcoat), *bahw* (hall) and *shurṭī* (policeman).

A similar attempt was made in 1908, when Ḥifnī Nāṣīf held a meeting at Dār al-'ulūm club to address several linguistic problems including the lexical deficiency of Arabic.

However, these and many other similar efforts were unable to succeed owing to got many factors chief among which was the lack of the necessary backing and support by the governments.

The first official academy (majma') in the Arab world however was founded in Damascus in 1919 by the celebrated scholar Muḥammad Kurd 'Alī (1876-1953).

The Academy was subsidized by King Faṣṣal. It consisted of two major committees, al-lajnah al-lughawīyah al-adabīyah, and, al-lajnah al-'ilmīyah al-fannīyah. The former was charged with preserving and promoting the purity of Arabic, and investigating the linguistic and literary problems of the language. The latter committee was formed to broaden the scope of the arts and sciences.

In 1921 the Damascus Academy initiated the publication of the quarterly journal *majallat al-majma' al-'ilmī al-'Arabī* which has up to the present continued to address many subjects such as the history and literature of the Arabs, and the role and problems of the Arabic language.

The journal also proposed a number of lists of new technical and scientific terms in different areas.

The second official academy in the Arab world was founded in Cairo by a royal decree of King Fu'ād of Egypt on December 1932. The creation of the academy was an idea proposed by a conference of leading writers held in Cairo to discuss the urgent need for creating a majma' that would work to preserve the integrity and purity of the language, and to devise a uniform method for coining the much needed techno-scientific vocabulary.

The Cairo Academy (majma' al-lughah al-'Arabiyyah) has the following tasks:

- To preserve the purity of the language, and to make it self-sufficient so as to meet the requirements of modern arts and sciences.
- To compile a historical dictionary of the language, and to do research on the development of the Arabic vocabulary throughout history.
- to sponsor the study of modern Arabic dialects.
- To work on promoting the language, and to render it a suitable medium of communication in the modern world.

- To issue a journal for the publication of the Academy's works and findings.

The tasks of the Academy are divided among a number of committees dealing with specific subjects.

As far as the matter of lexical development is concerned, the Academy gathers the new concepts and corresponding foreign words while the appropriate committee will conduct a thorough investigation to find suitable Arabic equivalents.

These native equivalents are then sent out to the Academy's membership, to individuals specialized in the field, and to the universities, where these terms are critically reviewed and sent back to the Academy.

At the annual meeting of the Academy, these new terms would be discussed, and if accepted permitted to circulate for approximately a year after which they will finally be included in an academy lexicon of newly-coined terminology.

In passing a resolution, or creating new terms, the academy has always been following the rules and findings established by classical Arab grammarians.

The Cairo Academy has always adhered to the principle that native equivalents should be found for the foreign words, either through the reviving of old Arabic vocabulary, or the derivation of new terms.

Only when such processes fail should the foreign word be borrowed and incorporated into the language.

The Academy's (cautious) work however is complicated by the question of disseminating and imposing these new coinages. Many Arab writers seem to have paid little or no attention to the Academy's recommendations.

In 1947 the Iraqi Ministry of Education established an academy which has been called al-Majma' al-'ilmī al-'irāqī. The main objectives of this academy are, to maintain the purity of the language, and to make it capable of meeting the needs of modern times.

The academy has continued until the present day to contribute to the development of the Modern Standard Arabic.

Recently, Jordan established in 1976 its own (Majma') academy which contains five Permanent

Committees: The Standards Committee which is concerned with the maintenance of high standards in the usage of the language, the Committee of Arabization and Dictionaries which is charged with the task of presenting new Arabic expressions and their dissemination, the heritage committee, the Committee of *Al-Majallah*, the Academy's Journal, and the Academy's literary and translation committee which works on various projects of translating foreign (scientific and literary) works into Arabic.

The Jordanian Academy has in fact been very active in the process of Arabizing University level instruction. In addition to its translation projects, the Academy has requested all of the different ministries and institutions in the country, to provide it with all foreign terminology currently in use so that the academy can provide the appropriate native equivalents.

Obviously, the main subject of concern in the various attempts at the revival of Modern Standard Arabic has been the modernisation of Arabic vocabulary. The rapid development of modern life has made it necessary to introduce a great number of neologisms into the language. Many Arab scholars were engaged in heated

debates and discussions over means of neologisation, and the extent to which each one of the three main processes of lexical innovation, derivation, assimilation of foreign words (borrowing), and compounding, should be used.

The lack of a fixed methodology of lexical creation, and the fact that individuals as well as language academies in the Arab world tend to work in isolation, have always been regarded as the major dilemma in the process of lexical modernization in Arabic.

Many Arab intellectuals have been arguing that the language must not only be enlarged with new expressions but must also be unified and standardized. It has been realized that unless the various efforts of individuals and academies for lexical development were fully coordinated they would prove inconclusive and would add to the difficulties of the Arab world. In 1946, the Arab league issued a cultural agreement which has among other things declared that:

"the states of the arab league will work for the standardization of scientific terms, by means of councils, congresses and joint committees, which they will set up and by means of bulletins which these organizations will issue. They will work to

make the Arabic language carry all expressions of thought and modern science, and to make of it the language of instruction in all subjects and in all educational stages in the Arab countries.

(Quoted in Chejne 1969: 121)

Efforts aimed at achieving the above objectives have been on the increase since the early decades of the present century. However they have not yet yielded the desired results.

CHAPTER TWO

THE PHENOMENON OF AL-ISHTIQĀQ (DERIVATION) AND ITS ROLE IN THE DEVELOPMENT OF ARABIC VOCABULARY

2.1 Introduction

As an adaptable sociological organism language reflects and undergoes all aspects of change and development of the society where it is spoken. Any social or intellectual shift established by either some local or foreign influence will consequently generate an equivalent native or borrowed lexical growth as a great deal of new thoughts and other innovations come into being and have to be expressed by new words.

However, the process by means of which the vocabulary of any language can be expanded are numerous (See Hymes 1964: 530), yet the preference of one means rather than another is a matter subject to a variety of factors such as the nature of the given language, the kind of change and innovation, and the sort of

correlative influence between a language and its speakers.¹

These elements may constitute the basis of the fact that the analogical method of derivation has been regarded as the most important means in the various attempts made in the course of Arabic lexical development.

As a prominent feature of the morphological system of the language, al-ishtiqaq (derivation) represents an appropriate aspect of lexical growth within the native resources and essential entity of the language which many Arab scholars are zealous to preserve.

In the present chapter we will survey the role and significance of the phenomenon of ishtiqaq which provides Modern standard Arabic with its native means for generating new lexical items in a manner which preserves the cultural and literary character of the language.

¹ See Shouby's (1951) article "The Influence of the Arabic Language on the Psychology of the Arabs", 24 MEJ, 284-302.

2.2 THE CONCEPT OF ISHTIQĀQ

The concept of al-ishtiqāq as usually employed in Arabic studies refers to the general notion of a lexical phenomenon established on the basis of the formation of one (or more) word(s) or form(s) from another. Generally speaking, the scope of the notion and the nature of the phenomenon it describes constitute major aspects of the different definitions and descriptions of the concept.

By adopting an etymological approach in investigating Arabic vocabulary, the classical Arab scholars emphasized the concept of ishtiqāq as a means for the identification and establishment of a relationship between various lexical items rather than as a method to derive new words.

In addition to the common notion of ishtiqāq whereby different words sharing an identical root are related to a single source (usually a verb or a verbal noun)² by way of al-ishtiqāq al-asghar (minor derivation) e.g. kataba - kātib - kitāb - maktabah - katībah, etc., the scope of the concept of ishtiqāq has been expanded to cover a wide area of application.

² For a detailed account of the classical arguments over the source of derivation in Arabic see: ibn al-Anbārī (1945 ed.): *al-Insāf fī masā'il al-khilāf*, and al-Makhzūmī (1964): *fī al-naḥw al-'arabī, naqd wa tawjīh*.

According to ibn Jinnī's (d 1002) notion of al-ishtiqāq al-akbar, words with identical radicals (no matter how they are arranged) have, a close connection in meaning. To establish his theory ibn Jinnī proposed a method of choosing a trilateral word and establishing a general meaning for all the six possible formations of the three radicals of that word, even by way of interpretation. He (1955: 134) states:

"وَأَمَّا الْإِشْتِقَاقُ الْأَكْبَرُ فَهُوَ أَنْ
تَأْخُذَ أَصْدَقُ مِنَ الْأَحْكَامِ الْإِشْتِقَاقِيَّةِ فَتَقَعَدَ
عَلَيْهِ وَعَلَى تَعَالِيهِ السَّمْعُ مَعْنًى وَاحِداً
يَجْتَمِعُ التَّرَاكِبُ إِلَيْهِ وَمَا يَصْرَفُ مِنْ كُلِّ
وَاحِدٍ مِنْهُ عَلَيْهِ ، وَإِنْ تَبَاعَدَ شَيْءٌ
ذَلِكَ عَنْهُ ، رُدَّتْ بِطَرَفِ الْإِشْتِقَاقِ وَالْمَأْوِلِ
إِلَيْهِ ، لَمَّا يَفْعَلُ الْإِشْتِقَاقِيُّوهُ ذَلِكَ فِي تَرْكِيبِ
الْوَحْدِ ."

To quote some examples given by ibn Jinnī (ibid), the roots k-l-m and j-b-r with the various formations they yield are all claimed to be indicative of the idea of strength:

k-l-m	k-m-l	m-k-l	m-l-k	l-k-m	l-m-k
j-b-r	j-r-b	b-j-r	b-r-j	r-j-b	r-b-j

By way of commenting on the above examples al-Suyūṭī (1986, I: 347) points out that ibn Jinnī realizes the fact that this phenomenon is not applicable to all Arabic derivatives, he was merely illustrating his potentiality of relating different things (words) to a common semantic import.

Moreover, the concept of ishtiqāq has been applied by some classical scholars to refer to some instances usually identified as types of substitution (ibdāl), which reflects the assumption that words sharing two identical radicals have some relationship in meaning and are derived from a single original form.

Al-Karmalī (1938) argues that Arabic words were originally bilateral forms based on the imitation of natural sounds, and through the various stages of development were prefixed, infixed and/or suffixed with some other sounds to generate a variety of related words (Ibid.: 9). The following are some of those examples given by him (Ibid.: 4-7) in this respect:

Prefixation: (r-m)

tharama: to knock a tooth out

jarama: to cut

harama: to refuse

kharama: to pierce
 sharama: to split
 sarama: to cut sharply

Infixation: (r-m)

ratama; to break
 rathama: to break
 rajama: to stone
 radama: to cling
 rasama: to mark
 raṭama: to throw out
 rakama: to pile up

Suffixation:

naba'a: to rise
 nabata: to grow
 nabatha: to unearth
 nabaha: to bark
 nabasha: to dig up
 naba'a: to be high
 nabara: to stress

ʿAbdullah Amīn (1956) uses the notion of al-ishtiqāq in the wide sense of lexical formation when he refers to the old phenomenon of naḥt (see 4.1.3) with the term al-

ishtiqaq al-kubbār on the basis of deriving one word from two (or more) words (see al-Ṣāliḥ 1986: 243).

Amīn's (as well as the classical) views of the concept may be summarized by his definition of al-Ishtiqaq as:

"A discipline (ʿilm) according to which (uṣūl al-kalimāt) derivational bases of words, their (furūʿ) derivatives, the relations between them and particular ways of forming the ones from the others, may be defined". (Amīn 1956 cf. Ali. 1983: 53).

Yet, the fact remains that the concept of ishtiqaq as generally adopted in Arabic lexicology refers to the formation of one word from another with the two words sharing an identical root and corresponding to a general idea, a process known in classical terms as al-isthtiqaq al-aṣḡhar, which has been defined by al-Suyūṭī (1986, I: 346) as:

"أَخَذُ صِيغَتِي مِنْ أُخْرَى ، مَعَ إِتْمَانِهَا مَعْنَى
وَمَادَّةِ أُصْلِيٍّ وَهَيْئَةِ تَرْكِيبِهَا لِيُذَلَّ بِالنَّاسِ
عَلَى مَعْنَى الْأَمْرِ بِزِيَادَةِ بَنِيَّةٍ أَوْ جُلْدٍ أَوْ تَقْلُصِ حُرُوفٍ
أَوْ هَيْئَةٍ . كَخَارِبٍ مِنْ مَرْبٍ وَخَذْلٌ مِنْ خَذَلٍ ."

To describe the process al-Suyūṭī (Ibid.: 348) refers to the differences between the derivational base

(agl) and the derivative, and lists the following fifteen types of changes:

1. The addition of a vowel (ziyādat harakah):
 ‘ilm ‘alima
2. The addition of a substance (ziyādat māddah):
 talaba tālaba
3. The addition of both of a vowel and substance (ziyādatuhumā):
 dharb dhāraba
4. The omission of a vowel (nuqsān harakah):
 faras fars
5. The omission of a substance (nuqsān māddah):
 thabāt thabt
6. The omission of both of a vowel and substance (nuqsānuhumā):
 nazawān nazā
7. The omission of a vowel, and the addition of a substance (nuqsān harakah wa ziyādat māddah):
 ghadhab ghadhbā
8. The omission of a substance, and the addition of a vowel (nuqsān māddah wa ziyādat harakah):
 hirmān harama
9. The addition and omission of both a vowel and a substance (ziyādatuhamā ma‘a nuqsānihimā):
 nāqah istanwaqa

10. The variance of vowels (taghāyur al-harakatayn):
batara batira
11. The omission of a vowel and the addition of a vowel and a letter (nuqsān harakah wa ziyādat ukhrā wa harf):
dharb idhrib
12. The omission of a substance and the addition of another (nuqsān māddah wa ziyādat ukhrā):
radhā'ah radhī'
13. The omission of a substance and the addition of another and a vowel (nuqsān māddah wa ziyādat ukhrā wa harakah):
khawf khāfa
14. The omission of a vowel and a letter, and the addition of a vowel (nuqsān harakah wa harf wa ziyādat harakah):
wa'd 'id
15. The omission of a vowel and a letter, and the addition of a letter (nuqsān harakah wa harf wa ziyādat harf):
fikhār fākhara

The classical approach towards the phenomenon of ishtiqāq has led al-Suyūṭi to add another nine methods of establishing a single word as a base for other derivatives (Ibid.: 349), yet, as Ali rightly argues if

we examine the set of changes in al-Suyūṭi's examples we would notice that there is no synchronic basis on which the direction of the process of derivation is justified. Excluding historical etymology, why cannot the derivation be seen as going in reverse direction or, in other words why can it be generalized in one direction, but not in the other. (Ali 1983: 59)

Bearing such reservations in mind, one can say that the phenomenon of al-ishtiqāq as earlier defined by al-Suyūṭi seems to represent a case of lexical formation with strong parallels to the concept of derivation in the modern linguistic sense. As a technical term, derivation is usually identified as one of the two main categories or processes of word formation (Crystal 1985: 89) which is concerned with formations rather than those of compounds (Matthews 1974: 43). The term is usually contrasted with inflection and some attempts were made to achieve a clear distinction between the two related processes (See Nida 1967: 99).³

In a general statement Crystal (Ibid.) remarks that the result of a derivational process is a new word, (e.g. nation - national) whereas the result of an

³ For a discussion on the incompatibility of these aspects with Arabic morphology, see Ali (1985).

inflectional process is a different form of the same word (e.g. nations, nationals). However, he emphasized that the distinction is not totally clear-cut.

It seems however to be a common phenomenon among many Arabic linguists and Arabists to use the term derivation as an expression equivalent to that generally adopted concept of *ishtiqaq*. Yet, while such illustrations of the derivational process as given (above) by al-Suyūṭī seem to exhibit a kind of derivational (lexical) rather than inflectional (grammatical) process of formation, it can be noted that both categories are covered by the notion of *al-ishtiqaq* as usually examined and illustrated in Arabic lexicology.

A close look at certain modern studies on the subject reveals that the concept includes features generally conceived to be in the domain of inflectional morphology such as gender, number and tense.

Wāfi (N.D.: 178) for example regards as types of derivation (*al-ishtiqaq al-‘āmm*) all the various formations of the triliteral root ‘-l-m such as:

'alima:	he learnt
'alimnā:	we learnt
a'almu:	I know
na'lamu:	we know
'ulūm:	sciences

In a more recent linguistic study on the subject Ali (1987: 20) refers to the following "simple conjugations of the form fa^{''}ala as representing the original example of al-ishtiqāq al-asghar:

I:	fa ^{''} altu	ufa ^{''} ilu	
we:	fa ^{''} alnā	nufa ^{''} ilu	
you (masc.sg.):	fa ^{''} alta	tufa ^{''} ilu	fa ^{''} il
you (fem.sg.):	fa ^{''} alti	tufa ^{''} ilīn	fa ^{''} ilī
you (du.):	fa ^{''} altumā	tufa ^{''} ilān	fa ^{''} ilā
you (masc.pl.):	fa ^{''} altum	tufa ^{''} ilūn	fa ^{''} ilū
you (fem.pl.):	fa ^{''} altunna	tufa ^{''} ilna	fa ^{''} ilna
he:	fa ^{''} ala	yufa ^{''} ilu	
she:	fa ^{''} alat	tufa ^{''} ilu	
they (masc.du.):	fa ^{''} alā	yufa ^{''} ilān	
they (fem.du):	fa ^{''} alatā	tufa ^{''} ilān	
they (masc.):	fa ^{''} alū	yufa ^{''} ilūn	
they (fem.):	fa ^{''} alna	yufa ^{''} ilna	

Clearly, the above examples represent an inflectional type of formation, yet it remains that Arabic may reveal some aspects whereby the distinction between the two processes can even be much greater. It can be added that the various treatments of the subject of Arabic lexical formation do not seem to lay much emphasis on establishing such a demarcation line between the general framework of the concept of *ishtiqaq* and those types of grammatical formations it yields. The lack of a common agreement among Arab scholars on referring to such a process of "inflectional formation" illustrates this point. In one case the term "inflection" has been identified with the general notion of *i'rāb* (Cacia 1973), hence "inflectional morphology" can be rendered into *al-murfulūjia al-i'rābiyah* (Kārūrī 1983: 83). In other instances the term itself is identified with the classical concept of *taṣrīf* (al-Khūlī 1983: 131) which some modern linguists tend to employ as an expression equivalent to those aspects of Arabic inflectional morphology (see, for example, Ali 1985: 15).

However, the concept of *taṣrīf* usually refers to those practical aspects of *ḡarf* (morphology) which al-Hamalāwī defines as "all processes of change in/to the

structure of an Arabic word which affect its form and meaning (c.f. Kārūrī, Ibid.: 88).

Al-Suyūṭi (Ibid., I: 351) remarks that taṣrīf is wider than ishtiqāq, as it illustrates the various patterns of Arabic, reflecting his views that to identify a derivational base we need to know the other forms (taṣārīf) of the word in order to find a certain pattern (ṣiḡḥah) which is the origin (aṣl) of all related forms (al-Suyūṭi, Ibid.: 346).

In a similar manner, ibn Jinnī (1954a) uses al-ishtiqāq (al-aṣghar) in the general sense of the creation of one word or form from another. Yet he employs taṣrīf as a normative means of evaluating and examining the different Arabic forms. He (Ibid.: 2-4)

states:
التصريف يحتاج إليه جميع أهل العربية أتم حاجة ،
لأنه يزيان العربية ، وبه تعرف أصول كلام
العرب من الزوائد الداخلية ، ولديهم إلى
إلى معرفة الاشتقاق إلى الله .
وينبغي أن يعلم أن بنية التصريف والاشتقاق نسباً قريباً
والمعالم شديدة ، لأن التصريف إن هو أن تجيء إلى
الله الواحد فتصرف على وجه شئ ، فينبغي به ضرب
من جعفر (ضرب) ، قطر (ضرب) ، دركهم (ضرب) .
أما الاشتقاق فتجيء إلى الضرب فتشعر منه ضرب ،
بضرب ، ضارب .

Finally, Hasan defines tasrīf as a change (taghyīr) in the pattern (ḡīḡhah) and structure (binyah) of a word in order to examine its letters in terms of aḡālah, siḡḡhah, i'lāl, ibdāl or any changes other than those of formation (Hasan N.D., 4: 747).

In the following, we shall be concerned with the concept of ishtiḡāq (derivation) as a method of lexical creation, established on the basis of abstracting certain radicals from one word and combining them with a native pattern, to create a new word, usually according to some aspects of qiyās (analogy).

2.3 AL-QIYĀS (ANALOGY)

As far as the process of Arabic lexical formation is concerned, al-qiyās may constitute the basis upon which the method of al-ishtiḡāq is built. It can be defined as the means by which new words are derived according to some forms and other aspects established in the language.

Yet, the concept of qiyās as applied in Arabic studies seems to refer to a variety of aspects.

In the early investigations into the language the concept was adopted as an empirical method of establishing general rules and conclusions on the basis of similarity or analogy. But after those conclusions had been established, the method of qiyās "was turned into a normative rule powerful enough not only to explain but also to correct and to form" (Stetkevych 1970: 3).

Arabic examples which deviate from the conclusions offered by some classical grammarians were regarded as non-analogical, and, thus, although attested (Samā'ī), have not been accepted as models for analogy.

Towards the end of the fourth Islamic century, the concept of qiyās acquired great prominence in the works of abū 'Alī al-Fārisī (d 377 A.H.) and his disciple 'Uthmān ibn Jinnī (d 392 A.H.). The latter was believed to belong to the Mu'tazilah school of thought which was famous for its emphasis on rational inquiry, and placing language under the molding authority of reason. It has therefore been suggested that the new environment of the fourth Islamic century and the need for lexical

development were some of the major factors behind ibn Jinnī's zeal for a formative qiyās when he declares that what is analogically formed in accordance with the norms of Arabic speech is part of it (ibn Jinnī 1954b: 114):⁴

— "مَا قِيَاسٌ عَلَى كَلَامِ الدَّبْرِ فَهُوَ مِنْ كَلَامِ الدَّبْرِ" —

In their attempts at reforming Arabic vocabulary, many modern Arab scholars try to expand the scope of qiyas to cover a wide variety of analogical and attested (Samā'ī) examples of classical Arabic.

2.4 ROOT AND PATTERN COMBINATION

Apart from pronouns, certain particles and incompletely assimilated foreign vocabulary, the Arabic word is a combination of two sets namely a root (jīdr) and a pattern (ḡīḡah) neither of which is capable of independent existence. The root on the one hand is a morpheme which is realized as a sequence of normally three, infrequently four, and rarely two consonants in a fixed order and underlying a variety of related forms.

The pattern on the other hand is the vowels, semi-vowels and consonants that shape the lexical and grammatical values of the general idea conveyed by the root.

⁴ A detailed discussion of various aspects of qiyās is given by Anīs (1985).

As a great majority of Arabic words are built up on a framework of a trilateral root, analogically combined with related patterns, the classical Arab scholars applied the three consonants f-ʿ-l to indicate respectively the first, second and the third radicals constituting Arabic roots, and to symbolize and identify the various patterns of Arabic vocabulary, as the following examples may illustrate:

intashara	n-sh-r	ifta'ala
intahara	n-h-r	ifta'ala
infataha	f-t-h	infa'ala
manā'ah	m-n-ʿ	fa'ālah
majā'ah	j-w-ʿ	maf'alah

To illustrate the process of root and pattern combination in Arabic, the following are examples in which the root ʿ-l-m is combined with a variety of grammatically and derivationally related patterns:

ʿ-l-m

'alima (fa'ila):	he learnt
'alimnā (fa'ilnā):	we learnt

'allama (fa''ala):	he taught
yu'allimu (yufa''ilu):	he teaches
mu'allim (mufa''il):	a teacher
mu'allimāt (mufa''ilāt):	female teachers
'alāmah (fa'ālah):	a sign
'alāmāt (fa'ālat):	signs
ta'līm (taf'īl):	education
ta'ālīm (tafā'īl):	doctrines
ma'ālīm (mafā'il):	traces
ta'līmāt (taf'īlāt):	instructions
isti'lāmāt (istif'ālāt):	inquiries
'alam (fa'al):	a flag

2.5 THE ESTABLISHMENT OF SOME PATTERNS AS A MODEL FOR ANALOGICAL DERIVATION

One of the main tasks of the Arabic language academies is to regulate the processes by which new words are created, and to keep those processes in line with the characteristic system of the language.

The leading Academy (majma') of Cairo which was established in 1932 has the object of guarding the

language from decay and at the same time turning it into an efficient medium for modern life. In this sense the secretary-general of the Cairo Academy Ibrāhīm Madkūr states, that the Academicians who are aware of the need for adapting the language to the need of the modern world, believe that time plays a major role in this development which should be observed and controlled by some measures and rules (Majma': 1971).

The Cairo Academy has been following a cautious line when passing a resolution or taking a new step. In fact most of its work of creating new vocabulary is a careful investigation of the classical material in a conservative spirit than a radical attempt at reform.

In this respect, the Academy has attempted to define Arabic nominal patterns in order to investigate the possibility of establishing them as bases from which to derive new vocabulary. The attempt was never completed and only few patterns were discussed and recommended for analogical application. The following is a survey of some of those patterns.

2.5.1 MIF'AL - MIF'ALAH - MIF'ĀL - FA'ĀLAH. (NOUNS OF INSTRUMENT)

The rapid technological development of the modern world presents Arabic with a great deal of new inventions whose names are based largely on foreign terms. To find equivalent Arabic expressions has been a topic of great attention and concern among members of the Cairo Academy, especially in the period between 1934 and 1935.

The focal point was centered on agreeing on an analogical method for deriving nouns of instrument. Members were divided into two groups, conservatives and modernists. According to the former group which was led by Sheikh Husain Wālī (d 1936), the analogical derivation of nouns of instrument should be only constructed from the transitive verbal form of fa'ala, on the patterns of mif'al, mif'āl, and mif'alah. Other nouns of instrument in classical Arabic which were derived from other sources, can be used, but cannot be adopted as a model for new derivations, as they are rare in the language (Wālī 1936 cf. El-Khafaifi 1985: 82).

In contrast, al-Maghribī (d 1956) who belongs to the modernists, took a wider view of the concept of ('ālah) instrument. He argues that the issue was not

treated in a thorough manner by the early scholars because of the differences between their position and our present need for the assimilation of hundreds of thousands of new foreign terms. Thus, he remarked that, having surveyed a great deal of classical material, he strongly believed that we can analogically derive nouns of instrument from transitive and intransitive forms of the verb, and even from concrete nouns (Ibid.: 83).

The following are some of the many classical examples cited by al-Maghribī in this sense:

midkhanah:	(mif'alāh) chimney	>	dukhān: smoke
mi'rāj:	(mif'āl) ladder	>	'araja: to ascend
minkhār:	(mif'āl) nostril	>	nakhara: to snore
mimlahah:	(mif'alāh) salt container	>	milh: salt
mi'barah:	(mif'alāh) pin cushion	>	ibrah: needle

The Academy however avoided referring to the controversy over the transitive-intransitive issue when it passed the decree ruling that:

"Nouns of instrument are analogically derived from the triliteral verb on the patterns of mif'al - mif'āl and mif'alāh, to denote an

instrument by which something is treated".
(See Majma' 1971: 34).

The following are examples of new coinages denoting instruments:

mijhar:	microscope
mijhār:	microphone
miṣ'ad:	a lift
miḍyā'	a radio
mirwahah:	a fan
mil'aqah:	a spoon
mirqab:	telescope
mijrafah:	shovel

The rapid increase in the number of new inventions has motivated the use of many native patterns to derive new nouns of instrument.

The pattern fa''ālah became so operative in modern usage that the Academy has no alternative but to authorize its analogical application (See Majma' 1971: 35). Below are certain neologisms derived in agreement with this pattern as well as its masculine counterpart of fa''āl:

fa''ālah:

darrājah:	bicycle
thallājah:	fridge
ghassālah:	washing machine
samma'āh:	earphone
nazzārah:	spectacles
farrāmah:	mincing machine
walla'āh:	lighter

fa''āl:

'addād:	meter
raqqās:	pendulum
rashshāsh:	machine gun
khallāt:	mixer

In the same way, a great deal of nouns of instrument which were created on the basis of many other forms, have gained general acceptance in common usage, e.g.:

mufa''il:

muwallid:	generator
muḥarrik:	engine
muḥawwil:	transformer
muqawwī:	amplifier
mukaththif:	capacitor

mufa^ʿilah:

mudammirah:	destroyer
mujammidah:	freezer

mufa^ʿil:

mu ^ʿ ādil:	equalizer
mudhā ^ʿ if:	multiplier
mufa ^ʿ il:	reactor

fā^ʿilah:

nāqilah:	truck
hāfilah:	bus
ʿākisah:	reflector
tā ^ʿ irah:	plane

It seems relevant however to indicate that the establishment of certain patterns as analogical model for the derivation of nouns of instrument has been influenced by the criteria of frequency (kathrah) and rarity (qillah). Patterns like fi^ʿāl, fi^ʿālah, and fā^ʿūl which denote some nouns of instrument like inā^ʿ (a dish), khiyāt (needle), zimām (camel halter), qilādah (necklace), and mā^ʿūn (container), were classified as samā^ʿī although they were believed to represent a very old usage (See Jawād 1955: 19) and (Zaydān 1982a: 104).

There are, though, many new derivations coined on such grounds such as:

fā'ūl:

sātūr:	a large knife
khātūf:	fishhook
sārūkh:	missile
kānūn:	stove

fi'āl:

'iyār:	bullet
simām:	valve

2.5.2 FA'ALĀN: (NOUNS OF COMMOTION AND FLUCTUATION)

The Cairo Academy issued a decree establishing the pattern of fa'alān as a model for the analogical derivation of a verbal noun that denotes commotion and fluctuation (taqallub wa idhtirāb), from the transitive verb of the form fa'ala (See Majma' 1971: 23). Examples of such category of derivatives are given below:

ghalayān:	boiling
sayalān:	liquefaction
dawarān:	rotation
ghathayān:	sickness
hadayān:	hallucination

khafaqān: palpitating

2.5.3 FU'ĀL - FA'AL (NAMES OF DISEASE)

Following classical examples, the Academy ruled that terms of the patterns fu'āl and fa'al which denote disease can be derived from concrete nouns. (Majma', Ibid.: 25).

The result was a variety of new medical terms like:

fusām: schizophrenia

fuwāq: hiccup

ru'āf: epistaxis

hukāk: prurigo

ruhāb: phobia

duwār: giddiness

huzāl: emaciation

fa'al:

shalal: paralysis

araq: insomnia

khadar: numbness

2.5.4 FA'ĀL (NOUNS OF REFERENCE AND RELATION)

The Cairo Academy has ruled that a noun of reference to a profession or a relation can be derived on the pattern of fa'Āl (Majma' 1971: 36).

The following are examples of this pattern:

jarrāh:	surgeon
tayyār:	pilot
najjār:	carpenter
hammāl:	porter
nahhāl:	bee-keeper
bawwāb:	doorman
baqqāl:	grocer

2.5.5 FI'ĀLAH (NOUNS OF PROFESSION)

The pattern of fi'ālah has been recommended by the Academy for the coinage of nouns referring to a profession, from any triliteral root (Majma', Ibid., 22). the productiveness of this pattern can be seen in the large number of new coinages following it:

jirāhah:	surgery
tibā'ah:	printing
nijārah:	carpentry
sibākah:	founder's trade and activity.

<u>sihāfah</u> :	journalism
<u>khiyātah</u> :	sewing, dressmaking
<u>siyāhah</u> :	tourism
<u>sinā'ah</u> :	industry
<u>filāhah</u> :	farming

2.5.6 SUMMARY

In the light of the preceding remarks, it can be observed that the Academy's attempt at analogical formation has been aimed at keeping the growth of the language in line with features of classical Arabic.

The earlier discussed resolutions exhibit a normative application of *qiyās* (analogy) whereby certain forms associated with relevant old derivations are established as bases for the formation of a large quantity of new terms. It is an undeniable fact that Arabic has gradually been enlarged with a great deal of new words to meet the new demands of the various stages of its history.

This process of lexical growth has usually been associated with aspects of development and change of Arabic lexical patterns. It is impossible to arrive at an exact systematic classification of those nominal

patterns organizing of the huge amounts of Arabic vocabulary.

Ibn al-Qattā' (d 515 A.H.) as quoted by al-Suyūṭī (1986, 2: 4) states that many scholars have attempted to count Arabic patterns (abniyat al-asmā' wa al-af'āl) but no one had provided an exact number of these patterns.

Sibawayh (d 180 A.H.) gave 308 nominal patterns, ibn al-Sarrāj (d316) added another 22 patterns, and so did abu 'Amr al-Jarmī (d 225 A.H.) and ibn Khālawayh, yet, al-Suyūṭī (Ibid.) himself counted 1210 Arabic patterns.

Moreover, new developments in the various branches of knowledge have been a major factor behind the introduction of new terms and consequently the employment of different native patterns. Thus, the development of Arabic medical knowledge in medieval times, led some scholars like al-Rāzī (240-320 A.H.) to adopt a variety of native forms to derive nouns of disease other than the old patterns of fu'āl and fa'al. The following are examples of terms provided by al-Rāzī (cf. Shaheen 1986: 156):

rashh:	fa'l
hibn:	fi'l
dabhah:	fa'lah
shaqīqah:	fa'īlah
istisqā':	istif'āl
ikhtināq:	ifti'āl
istifrāgh:	istif'āl

The well-known scholar ibn Sīnā (370-428) utilized Arabic lexical forms to derive many terms which are still in use by modern Arab physicians like:

ihtiḡān:	ifti'āl
ihtibās:	ifti'āl
iqshi'rār:	if'illāl
tagallub:	tafa"ul
ta'kīl:	taf'īl
tasyīl:	taf'īl

(cf. Shaheen, Ibid.).

It is not therefore surprising that modern Arab writers are attempting to enlarge the scope of qiyās, and make use of the great number of Arabic lexical patterns in order to adapt the language to the needs and requirements of modern aspects of life.

The following are examples of this tendency:

nouns of reference and relation:

muḥādhir:	lecturer
mudarris:	teacher
muḥāmī:	solicitor
mudīr:	manager
muqāwil:	contractor
muḍīʿ:	radio announcer
mumarridhah:	(fem.) nurse
mustathmir:	investor
mukhrij:	screen or stage director
mumaththil:	actor
ṣahafī:	journalist

names of disease:

tasawwus:	caries
imsāk:	constipation
hiyāj:	agitation
tajallut:	coagulate
talayyuf	cirrhosis
tanammul:	formication
taʿadhdhum:	ossification

2.6. ARABIC VERBAL PATTERNS

2.6.1 VERBAL PATTERNS SYMBOLIZED

The following examples represent the verbal patterns usually employed to symbolize the various forms of the verb in Arabic:

triliteral:

1. fa^ʿala:

<u>d</u> ahaba:	he went
j <u>a</u> lasa:	he sat
k <u>a</u> taba:	he wrote
<u>h</u> azina:	he became sad
<u>h</u> asuna:	to be beautiful

2. fa^{ʿʿ}ala:

kassara:	to break in pieces
q <u>a</u> tt <u>a</u> ^ʿ a:	to cut in pieces
^ʿ ad <u>d</u> aba:	to torture

3. fā^ʿala:

qā <u>t</u> ala:	to fight
jā <u>d</u> ala:	to argue
^ʿ ā <u>h</u> ada:	to make a contract

4. af'ala:

- akhbara: he told (someone)
 athmara: to bear fruit (thamar)
 adnaba: to commit a sin

5. tafa''ala:

- takassara: to be broken in pieces
 taqatta'a: to be cut in pieces
 tatabba'a: to pursue

6. tafā'ala:

- ta'amā: to pretend to be blind
 tajāhala: to feign ignorance, to neglect.
 tasāqata: to fall piece by piece

7. infa'ala:

- inqata'a: to be cut off
 inkasara: to become broken
 inqāda: to let oneself be led

8. ifta'ala:

i'taradha:	to oppose
ikhtasama:	to be disputed with someone
imtala'a:	to be full

9. if'alla:

ihmarra:	to be red
ihwalla:	to squint
izwarra:	to turn away

10. istaf'ala:

ista'adda:	to get oneself ready
istasqā:	to ask for (suqyā) a drink
ista'dana:	to ask for a permission (idn)

11. if'ālla:

ibyādhda:	to be white
irbāththa:	to be scattered

12. if'aw'ala:

ihdawadaba:	to be humpbacked
-------------	------------------

i^ˈshawshaba: to be covered with luxuriant
herbage

13. if^ˈawalla:

ijlawadda: to last long

i^ˈlawadda: to be heavy

14. if^ˈanlala:

ijhanshasha: to become like a (jahsh) donkey

ihlankaka: to be jet black

iq^ˈansasa: to have a hump in front

15. if^ˈanlā:

i^ˈlandā: to be hard

ihbantā: to be filled with rage

Quadriliterals:

1. fa^ˈlala:

zalzala: to shake

shamkhara: to be proud

sanbasa: to hasten

zahlafa: to roll along

jawraba: to put (jawrab) stockings on

2. tafa^llala:

tamantaqa: to put on (mintaqaḥ) a girdle.

tafalsafa: to pretend to be a philosopher

tamadḥahaba: to follow a certain (maḍhab) sect.

tamaskana: to feign poverty or humility, to
pretend to be a (miskīn) humble.

3. if^lanlala

ihwangsala: a bird puffs out its crop

iḥranjama: to be gathered together in a mass or
crowd

4. if^lalalla:

idhmaḥalla: to vanish away

iqsha^larra: to shudder

itma'anna: to calm down.

It can be said however that the first ten patterns of the triliteral are the most common forms of the verb in Arabic, though other patterns are by no means rare. Yet it seems worthwhile to refer to the fact that the

symbolization of certain classical examples like iq^ʿansasa, and ihlankaka as well as the variety of quadriliteral Arabic verbs may take different shapes owing to the basis by which their component radicals are viewed and treated.

Wright (1967) as well as many other scholars (as above illustrated) use the pattern if^ʿanlala to symbolize what have been regarded as two categories of trilateral: (ihlankaka > h-l-k), and quadrilaterals: (ihwansala > h-w-s-l) Arabic verbs.

In other instances, al-Suyūṭī (1986-2: 41) adopted the latter (ihwansala) as an example of the verbal pattern ifwan^ʿala, which reflects his assumption that the three consonants h-s-l constitute the trilateral root of the verb. Similarly, instances like tamaskana, tamadhaba, tamandala, which are usually viewed as of the pattern tafa^ʿlala, (See Wright, Ibid.: 48), can according to al-Suyūṭī's treatment be symbolized by the verbal form tamaf^ʿala (See al-Suyūṭī, Ibid.)

Moreover, in his interesting account of Arabic patterns al-Suyūṭī (Ibid.) gives a variety of other verbal symbolizations, for example:

tafaw'ala:	tarahwala
tafay'ala:	tashaytana
saf'ala:	sanbasa
fa'lana:	qaṭrana
fa'lasa:	khalbasa

The addition of a certain consonant radical to the triliteral root has usually been viewed as a method by which new forms are created to refer to new ideas. Hassān (N.D.: 153) emphasizes the point that Arabic roots are capable of being prefixed, infixes or suffixed with many letters other than the usual number (hurūf al-ziyādah): s-'-l-t-m-w-n-y-h-a, as each sound is capable of denoting a new meaning. He (Ibid.) refers to the following examples of affixation:

dahraja	daraja + (h)
shaqlaba	qalaba + (sh)
zaghrada	gharada + (z)
'arbada	'arada + (b)

Hassān (1974: 183-86), therefore, suggests the creation of new Arabic patterns to meet the new demands of development. In the following pages, we shall give a brief introduction to some of the Arabic verbal patterns in order to examine their derivational significance.

2.6.2 FA'ALA

The verbal pattern fa'ala is usually identified as the simple (mujarrad) form of the verb which, some grammarians believe to be the base of other (so-called) derived verbal patterns. Wright (1967-1: 29) for example writes:

From the first or ground-form of the triliteral and quadriliteral verbs are derived in different ways several other forms, which express various modifications of the idea conveyed by the first. The derived forms of the triliteral verb are usually reckoned fifteen in number.

It seems necessary however to point out that the establishment of a specific form as the base of other derivatives can easily be contradicted by the fact that the root (according to some analogical aspects) may be abstracted from different patterns of the language.

However, there are many examples of Arabic verbs with no corresponding (simple) form of fa'ala, such as:

fa'ala:

zawwaja > z-w-j	zawj
qayyada > q-y-d	qayd
wajjaha > w-j-h	wajh
addaba > a-d-b	adab

fā'ala:

shāraka	>	sh-r-k	shirk
hāraba	>	h-r-b	harb
nādhala	>	n-dh-l	nidhāl
shāwara	>	sh-w-r	ashara

af'ala:

ahraqa	>	h-r-q	hariq
athmara	>	th-m-r	thamar
anqada	>	n-q-d	inqād
afāda	>	f-'-d	fā'idah

istaf'ala:

istamtara	>	m-t-r	matar
istanjada	>	n-j-d	najdah
istanwaqa	>	n-w-q	nāqah
istabdala	>	b-d-l	badal

ifta'ala:

ih taraqa	>	h-r-q	hariq
ishta'la	>	sh-'-l	shu'lah
i'tanaqa	>	'-n-q	'unuq
imtata	>	m-t-y	matīyah

infa'ala:

insāba	>	s-y-b	sā'ibah
indāha	>	d-w-h	dawhah

inkadara	>	k-d-r	kadar
inhamaka	>	h-m-k	inhimāk

It can therefore be noted that the appearance of a certain root in a certain verbal pattern does not necessarily imply the possibility of its combination with the other verbal or nominal patterns of the language (See the following figure).

Figure (1)

	'maji' (coming)	sabr (patience)	'ilm (knowledge)	kasr (breaking)	qiyām (rising)	matar (rain)	'aqd (tying)	fā'idah (benefit)	abyadh (white)	salāmah (safety)	shujā' (brave)
fa'ala	jā'a	sabara	'alima	kasara	qāma		'aqada			salima	
fa'ala			'allama	kassara	qawwama		'aqada		bayyadha	sallama	shajja'a
fā'ala		sābara			qāwana		'āqada			sālama	
af'ala					aqāma	amṭara		afāda		aslama	
taf'ala			ta'alama	takassara			ta'aqada			tasallama	tashajja'a
tafā'ala			ta'ālama				ta'āqada				
ifā'ala				inḥasara			in'aqada				
ifta'ala		istabara					i'taqada			istalama	
if'alla									ibyadhdha		
istaf'ala					istaqama	istaṭṭara		istafāda		istaslama	

2.6.3 FA^ʿALA

Certain Arabic verbs of the pattern fa^ʿala come as an intensification (mubālaghah) of an idea expressed by form 1. e.g.

qata ^ʿ a: (to cut)	qatta ^ʿ a: (to cut in pieces).
ʿaqada: (to tie)	ʿaqqada: to complicate
qatala (to kill)	qattala: to massacre

In other cases, verbs that are intransitive in the first form become transitive, for example:

ʿalima: (knew; learnt)	ʿallama: (taught).
sadaqa: (to tell the truth)	saddaqa: (to believe).
kaḍaba: (to lie)	kaḍḍaba: (to disbelieve).

Yet, the interesting point here is that a great deal of (new) derivations whereby the root is abstracted from nominal bases, tend to be formed on this pattern. The following are examples of new verbs and verbal nouns derived in this manner:

tāj (crown): tawwaja	- tatwīj (crowning).
sawt (sound): sawwata	- taṣwīt (voting).
nazarīyah (theory): nazzara	- tanzīr (theory making).

shakl (form):	shakkala	- tashkīl (forming).
ma'ḍan (mineral)	'addana	- ta'dīn (mining).
wazīfah (function)	wazzafa	- tawzīf (employment).
sham' (wax):	shamma'a	- tashmī' (waxing).
silāh (weapon):	sallaha	- tasalluh) armament.
qimah (value):	gayyama	- taqyīm (evaluation).
summ (poison):	sammama	- tasammum (poisoning).

2.6.4 FĀ'ALA AND TAFĀ'ALA

A great number of verbs of the patterns of fā'ala and tafā'ala tend to express the idea of reciprocity (mushārahah), such as:

sāra'a	-	musāra'ah (wrestling)
tasāra'a	-	tasāru' (conflict)
jāma'a	-	jimā' (sexual intercourse)
shāraka	-	mushārahah (participation)
nāzara	-	munāzarah (debate)
tanāzara	-	tanāzur (similarity)
shāwara	-	tashāwur (consultation)
tadāf'a	-	tadāfu' (pushing away).
qāta'a	-	taqātu' (crossing)

There are however other fā'ala and tafā'ala verbs which may refer to different connotations as:

sāfara:	to travel
tāba'a:	to follow
tatāba'a:	to continue
tamāthala:	corresponded
ghādara:	left away
hāwala:	to try

2.6.5 AF'ALA

In some cases in Arabic a root may be abstracted from an intransitive verb and combined with the verbal pattern af'ala to create a new transitive verb. The Cairo Academy has ruled that "the intransitive triliteral verb can be transitivised by the adding of the prefix -' (hamzah), (Majma' 1971: 56).

It must be emphasized however that the root has in many instances been taken from different verbal forms and combined with different verbs of the pattern af'ala. The following are some examples:

- a. jarā (intr.): ajrā (tran.) ijrā': procedure.
 istafāda (intr.): afāda (tran.) ifādah: statement.
 kamula (intr.): akmala (tran.) ikmāl: finishing.
 habita (intr.): ahbata (tran.) ihbāt: frustration.

- b. taraqa (tran.): atra qa (intr.) itrāq: a bowing of
the head.
qasama (tran.): aqsama (intr.) - -
- c. qadima (intr.): aqdama (intr.) iqdām: bravery.
thaqula (intr.): athqala (intr.) - -
kathura (intr.): akthara (intr.) ikthār: increase
qabila (intr.): aqbala (intr.) iqbāl: coming.
- d. wajada (tran.): awjada (tran.) 'ījād: creation.
qata'a (tran.): aqta'a (tran.) iqtā': feudalism
sami'a (tran.): asma'a (tran.) - -

In many other cases, verbal derivation of af'ala is made from concrete nouns like:

thamar (fruit):	athmara.
fi <u>s</u> (a kind of currency):	aflasa
war <u>a</u> q (leaves):	awraqa.

2.6.6 INF'A'ALA

The intransitive form of inf'ala has usually been treated as a reflexive pattern which, in Arabic grammatical terms expresses the idea of "mutāwā'ah".

The notion of *mutāwa'ah* refers to a case where the object (al maf'ūl bih) which is affected by the action accepts its effect, thus, "the verb is labelled as *mutāwi'* by a way of metaphor" (Jawād 1955: 15).

In illustrating *mutāwa'ah*, Arab grammarians give many example of different verbal forms expressing this idea, for example:

in'aqada: 'aqadtū al-habla fa in'aqada (al hablu)

(I tied the rope, the rope becomes tied).

tabā'ada: bā'adtuhu fa tabā'ada.

(I kept away from him, and he kept away).

ilta'ama: la'amtū al-jurḥa fa ilta'ama (al jurḥu).

(I bandaged the wound, and it became mend).

Al-Astrābādī, quoted by Jawād (Ibid.) states that *infa'ala* always comes as a pattern of *mutāwa'ah*, derived from the triliteral verb of *fa'ala* which express the idea of treating something e.g. *kasara* - *qata'a* - *jadaba*. However, he remarks this case does not constitute a general rule, as one cannot coin examples like *intarada*, since it is not appropriate to say:

taradtuhu fa intarada, but taradtuhu fa dahab (I drove him away, and he left).

The Cairo Academy has issued a decree stating that:

"A pattern of mutāwa'ah (infa'ala) may analogically be derived from any transitive triliteral verb (fa'ala) which denotes the treatment of something (mu'ālajah hissīyah). Yet for those (fa'ala) verbs which begin with one of the letters w-l-n-m-r the derived pattern is ifta'ala". (Majma' 1971: 39)

Jawād (Ibid.: 15) criticizes the notion of mutāwa'ah, which he regards as a strange (khurāfah) myth. He (Ibid.) argues that no native speaker would utter such a sentence like, kasartu al-'ūda fa inkasar.

The pattern infa'al according to him (Ibid.: 17) serves only to indicate an action carried out by the subject (fā'il) without any external influence like:

ingarafa: to leave

inharafa: to deviate (from something).

inkadara: to fall sharply.

Jawād (Ibid.: 18) therefore, criticizes the above decree, and emphasizes al-Astrābādī's (above) statement

that infa^ʿala cannot always be derived from triliterals denoting treatment.

The secret behind the fact that certain roots are not capable of being combined with this pattern according to Jawād (Ibid.) lies on some grammatical and semantic grounds.

Thus, while instances like intalaqa, indafa^ʿa refer to an action initiated by the agent, others like inhabasā, intaraḍa, indicate a case where an act is being directed toward an object who does not want to participate in such an act (Jawād 1955: 18).

Indeed, the process of lexical formation in Arabic normally involves the consideration of the idea conveyed by the root, with the indication of the pattern, thus instances like:

inrakaba al-hisānu

inghasala al-thawbu

inkhalaqa al-insānu

would respectively mean: the horse is ridden, the shirt is washed, and the man is created, where the actually used Arabic pattern is the passive form of fu^ʿila

(rukiba, ghusila, khuliqa, etc.) in which the identity of the agent is deliberately withheld.

Modern Standard Arabic, however, shows a variety of lexical neologisms formed on "infa'ala" pattern. The following are examples of this process:

inqasama	-	inqisāmāt:	disruptions
inhadara	-	munhadar:	depression
in'atafa	-	mun'ataf:	detour
insāqa	-	insiyāq:	following blindly
in'ataqa	-	in'itāq:	achievement of freedom
insahaba	-	insihāb:	withdrawal
inkamasha	-	inkimāsh:	absorption
insalakha	-	insilākh:	the abandonment of some aspects.
inbahara	-	inbihār:	astonishment.

2.6.7 ISTAF'ALA

In a great number of cases, the verbal pattern istaf'ala comes as a desiderative form (sīghah talabīyah) that expresses the seeking, demanding or asking for the notion conveyed by the combined root, such as:

istaghātha:	to ask for a (ghayth) rain or help
ista'āna:	to ask for a ('awn) help
istaghfara:	to ask for a (ghufrān) forgiveness
ista'dana:	to ask for a ('idn) permission
istasqā:	to ask for a (suqyā). ⁵

The productiveness of this pattern is reflected in the great number of new words derived on its basis:

istashfā: to ask for a (shifā') cure.

mustashfā: hospital

istashāra: to ask for an (ishārah) advice

mustashār: counselor

istishārī: consultant

istaqdama, istiqdām: a new term which as adopted in some Arab countries refers to the asking for the (qudūm) coming of new immigrants.

⁵ Classical examples of istanwāqa al-ba'īru, istatyasat al-'anzu, are given as, a he-camel (ba'īr) behaves like a she-camel, and, a she-goat behaves like a he-goat respectively (See Wright 1967-1: 45, and Abderrahman 1981: 49). However, on an analogical bases with the above examples, they can be treated as desiderative verbs, hence:
 istanwāqa: wanted a nāqah (female camel)
 istatyasat: needed a tays (male goat)
 istaslama: wanted salāmah (safety), etc.

istafsara: to ask for (tafsīr) an explanation.

istifsār: inquiry

There are however many other cases of classical as well as modern examples, where istaf'ala expresses a variety of other meanings, as the following may illustrate:

istajāba - istijābah: answering

istaqalla - istiqlāl: independence

istawtana - istītān: settling

mustawtanāt: settlements

istamarra - istimrār: continuity

ista'adda - isti'dād: readiness

istaqtaba - istiqtāb: polarization

istanzafa - istinzāf: exhaustion

istahlaka - istihlāk: consumption

ista'mara - isti'mār: colonialism

ista'mala - isti'māl: use

2.6.8 FA'LALA

The verbal pattern fa'lala represents Arabic quadrilateral verbs which are usually formed in different ways.

1. A bilateral element may be repeated to exhibit a specific meaning like:

‘an‘ana: to say that a statement was narrated by X
(‘an) from Z.

gharghara: to gurgle

waswasa: to whisper

dandana: to croon a song

2. In cases of affixation where a sound is taken from one word and prefixed, infixed or suffixed to another and consequently adopted as an element of the new root, like:

shamkhara: (to be proud) shamakha + r

daḥraja: (to roll) daraja + ḥ

zaḥlafa: (to roll along) zaḥafa + l

3. In case of naḥt (see 4.1.3), whereby a word is created from elements abstracted from other words like:

ḥawqala: to say: lā ḥawla walā quwwata illā billāh.

basmala: to say: bismil lāh.

ḥamdala: to say: al-ḥamdu lil lāh.

4. In instances where a verb is derived from borrowed word, usually by the abstraction of four consonants and their consequent verbalization, such as:

jawraba: to put on stockings (jawrab).

jalbaba: to put on a garment (jilbāb).

falsafa: to philosophize (falsafah).

talfaza: to televise (tilifizyūn).

balwara: to crystallize (billawr).

karbana: to carbonize (kurbūn).

hadraja: to hydrogenate (hidrūjīn).

aksada: to oxidize (oksid).

maghnata: to magnetize (maghnātīs).

2.7 DERIVATION FROM CONCRETE NOUNS

As many have been noticed in the previous pages, classical Arabic material reveals many examples of verbs and verbal nouns which were derived from different concrete nouns such as:

ista'sada: to become similar to a (asad) lion.

tahajjar: to turn like a (hajar) stone.

Yet, according to those rules established by classical Arab grammarians, derivation can only be done from a verb or a verbal noun (maṣḍar).

After many discussions and debates over the employment of concrete nouns for further derivation the Cairo Academy, however, issued the following statement:

"The Arabs had frequently used concrete nouns (asmā' al-a'yān) for derivation. The Academy therefore approves this process if necessary in the language of science." (Majma' 1971: 7)

This process would certainly lead to the introduction to the language of a great number of roots abstracted from many native and other foreign nouns which, when analogically combined with the various Arabic lexical patterns can provide Arabic with a variety of new derivatives.

The following are some illustrations of modern derivatives:

al-taṣaḥḥur	>	sahrā' (desert): desertification
		"mukāfahat al-taṣaḥḥur": (a process of stopping the expansion of the desert).

khayyama	>	khaymah (tent): to camp "mukhayyamāt al-lāji'īn" (refugee camps).
bawwāb	>	bāb (door): doorman.
maqḥā	>	qahwah (coffee): cafe.
simākah	>	samak (fish): fish-farming.
taswīq	>	sūq (market): marketing

2.8 THE USE OF THE SUFFIXES 'ĪY - 'ĪYAH: (YĀ' al-NISBAH)

One of the most productive features of lexical expansion in Modern Standard Arabic, has been the use of nisbah suffixes 'īy and 'īyah for the formation of new words. The following are examples of this process which yields a large number of adjectives:

ta'āwunīyah	-	jam'īyāt ta'āwunīyah	(cooperative societies).
ta'līmīyah	-	wasā'il ta'līmīyah	(educational aids).
tullābīyah	-	andiyah tullābīyah	(student clubs).
iqtisādīyah	-	nawāhi iqtisādīyah	(economical aspects).

In many other respects, the feminine plural suffix -'āt- is attached to such nisbah forms to produce new

lexical items fulfilling many modern semantic needs as in the cases below:

sawt (sound):	= sawtīyāt:	(phonetics).
lughah (language)	= lughawīyāt:	(linguistics).
barr (land) + mā' (water)	= barmā'iyāt:	(amphibious).
sukkar (sugar)	= sukkarīyāt:	(sugars).
adab (literature)	= adabīyāt:	(literary works).
nashā (strach)	= nashawīyāt:	(carbohydrates).

The Cairo Academy also approved the formation of an abstract noun (al maṣḍar al-ḡinā'ī) by attaching the suffix -'īyah- to any word (See Majma' 1971: 21). The significance of this operation can be observed through the numerous new words that have been formed in this manner, as the following examples illustrate:

shuyū'īyah (shuyū')	communism.
ra'smālīyah (ra'smāl):	capitalism.
qawmīyah (qawm):	nationalism.
ishtirākīyah (ishtirāk):	socialism.
'ubūdīyah ('abd):	slavery.
tā'ifīyah (tā'ifah):	sectarianism.
intihāzīyah (intihāz):	opportunism.
qabalīyah (qābilah):	tribalism.
qābilīyah (qābil):	capability.

CHAPTER THREE

THE ASSIMILATION OF FOREIGN WORDS

3.1 Introduction

Cultural interaction and the exchange of the various aspects of developments in science and technical innovation is usually associated with certain forms of linguistic interference exhibited by the process of the diffusion of some lexical items from one language and their use in the context of another. The flexibility of "words" in this sense brings them within the domain of "borrowing" which, as a technical term, remains comparatively unambiguous in linguistic discussions (Haugen 1950: 211) despite criticisms which may arise from the incompatibility of its literal and conventional connotations (Matthews 1979: 47).

Such a process of lexical expansion is usually motivated by the imbalance in the lexical wealth of one language created by the appearance of new concepts and inventions established and signified by another. It is in fact a common phenomenon among human languages, yet they vary in the degree to which they adopt appropriate means for dealing with it, owing to a variety of

factors. While some are freely open for lexical borrowing others are more conservative and the process of borrowing may be accepted only as the last resort.

Arabic, which belongs to the latter category, has not been immune to loan-words, although the phenomenon of borrowing has been a subject of concern, debates and controversy among both classical and modern Arab scholars.

The process is generally known in Arabic studies as *ta'rib* (Arabicizing), a method whereby non-native terms are used by Arab speakers to signify meanings not originally found in their language (al Suyūti 1986-1: 268).

While the term "*ta'rib*" is still used in that technical sense which, refers to the integration and assimilation of foreign words usually through certain phonological and structural modifications, the concept has been used to cover areas beyond that restricted application. Besides denoting lexical innovation through borrowing, *ta'rib* is widely used to refer to linguistic innovation in general through the whole set of word-formation procedures on the one hand, the introduction of the language into a sphere of communication

heretofore secured by foreign languages, and the full use of Arabic as the medium of all social, cultural and intellectual aspects on the other.

The last three objects are the main focus of many contemporary institutions, and a great deal of discussion (see 5.4).

Our concern in this chapter is devoted to "ta'rib" in its restricted meaning of borrowing. We shall discuss its role and significance in the development of Arabic vocabulary shedding some light on related aspects, such as its role in classical Arabic texts and philological studies, the views of modern scholars and writers, and its position in the movement for the development of literary and scientific Arabic vocabulary.

3.2 CLASSICAL ARABIC LOAN-WORDS

The commercial and other relations between pre-Islamic Arabia and neighbouring nations had an effect upon Arabic demonstrated by the existence of a great number of loan-words in both the early poetry (al shi'r al-jāhili) and the Holy Qurān (see Jeffery 1938, Zaydān 1982b).

However much, a precise etymological judgement remains a controversial matter especially in relation to intra-Semitic borrowing, the fact still remains that like any other language, Arabic has been subjected to various types of linguistic interference.

The following examples of pre-Islamic loan-words (c.f. Bergsträsser 1982: 212-221) may illustrate the point:

Persian:	sundus
	misk
	khandaq
	dihqān
Abyssinian:	mishkāh
	minbar
	mihrāb
	<u>h</u> awāriyūn
Aramaic:	kibrīt
	murjān
	billawr
	zindīq

The Qur'ān which is believed to be the norm of Arabic purity (*fasāḥah*) contains such instances of borrowing (See *Sammūd* 1976: 14 : 186) recognized and accepted by some of the early scholars of the first Islamic century like *ibn 'Abbās* (d 68 A.H.) as well as *Mujāhid*, *'Atā'* and *'Ikrimah* (*al-Suyūṭī*, *Ibid* 1: 268).

Words like: *yamm*, *tannūr*, *istabraq*, *qistās*, *mishkāh*, and *sirāt*, were called "*gharīb al-Qur'ān*" and were classified as examples of *mu'arrab* (Arabicized).

With the advent of Islam, the pace become much greater, motivated by the increasingly active interactions with other civilizations of that time. Many *lexemes* related to a variety of topics came in through the daily and common use of the language as a by-product of the movement of conquest, immigration and inter-communication which brought the Arabs into contact with various innovations beyond what had been witnessed in the pre-Islamic period (See *al-Tha'ālibī* n.d.: 316).

It has been reported that in some cases foreign (*a'jamī*) words were commonly employed despite the availability of equivalent native terms. *al-Jāhiz*, for example, remarks that "*bāl*" and "*khurbuz*" were used instead of the native *mishāh* and *baṭṭīkh* (see *FÜCK* 1980:

29). A clear description of the degree of borrowing in classical practice is not at hand, as most of the early dictionaries were devoted to what was considered acceptable literary and "pure" Arabic. While many loan-words established themselves in the different scientific texts, and others were accepted in scholarly circles and even served the derivational process like *zindīq-zandaqah* and *faylasūf-falsafah-mutafalsifah*, etc., the attitude towards the preservation of the language as documented from the usage of certain Arab tribes in the limited periods of citation (*ʿusūr al-ihtijāj*) formed a somehow solid barrier against free entry and borrowing even during the movement of translation.

The movement known as "*naql al-ʿulūm*", i.e. the translation of foreign texts into Arabic is believed to have been started in the first Islamic century by the Umayyad prince Khālīd ibn Yazīd who had translations made from Greek and Coptic books on alchemy, medicine and astrology (Hitti, 1970: 235).

The Umayyads, as Chejne (1969: 61) remarks, were zealous to preserve the values of the peninsula and remained faithful to the language of their ancestors. It is not therefore surprising to note that the introduction of the use of the Arabic language in all

official and formal communications (taʿrīb al-dawāwīn) was a decision taken in the era of the Umayyad Caliph ʿAbdul Malik ibn Marwān.

The movement developed in a well established and natural manner and was to reach its highest extent in the times of their successors, namely, the Abbasids.

Through the bureau of translation in his "Dār alḥikmah", the Abbasid Caliph al-Ma'mūn (813-33) encouraged the translation into Arabic of numerous works on subjects (mainly scientific and technical) written in Greek and other languages.

The method of borrowing was one of the many linguistic means adopted to provide the vocabulary required for this task but still as a last solution for what was seen as a temporary situation. Foreign terms were either translated to express native needs or left as they were to be at a later stage replaced, assimilated or retained in their original forms.

The task of finding or coining Arabic words was not however an easy one. The difficulties of the situation that faced the early translators were intensified by the fact that most of them were themselves not native Arabic

speakers (see Chejne 1969: 70), yet, their methodology has proven to be of some efficacy. A fixed method was developed by Hunain ibn Ishāq (809-77) who was the head of the bureau mentioned earlier and who trained other translators. An example of his method, may serve in illustrating the point. As shown in the following text, he would establish an Arabic name for each Greek term when that was possible, or translate its meaning, giving to the native word the chance to be established throughout the whole text.

"العين مركبة من أجزاء كثيرة تختلف .
وليس جميع أجزائها يكون البصر بل بالمرطوبة
الشبيهة بالجلد المسماة باليونانية
(قريباً لونيئاس) أي الجلدية . هذه المرطوبة أعني
الجلدية بغير رطوبة واحدة من خلفها شبيهة بالزجاج
الذائب المسماة باليونانية (أي لونيئاس) أي الزجاجية
وأخرى من قدامها شبيهة ببياض لبين وتسمى باليونانية
(أورونيئاس) أي البيضاء . وخلف المرطوبة الزجاجية
ثلاث طبقات . الطبقة الأولى تحوي الرطوبة الزجاجية
وهي شبيهة بالشبك وتسمى باليونانية (امفيرليطس
ونيزيس خيئان) أي حجاب شبكي . والطبقة
الثانية التي خلف الأولى وهي شبيهة بالشمع
وتسمى باليونانية (خورونيئيس خيئان) أي الطبقة
المشمية"

3.3 THE CLASSICAL ARABIC VIEW OF BORROWING

The issue of borrowing and the nature of (mu^ʿarrab) the Arabicized vocabulary is an old topic in Arabic studies, traced back to the early investigations into the Qur'ānic text.

The early debates over the subject arose from the idea (mentioned earlier) that the holy text contains instances of non-native vocabulary. In contrast to the views held by early scholars like ibn 'Abbās (d 68 A.H.). Some later scholars rejected the claim that the Qur'ān contains anything other than "pure" Arabic.

The above puristic view which seems to have been influenced by certain religious considerations was taken by scholars like al-Shāfi'ī (d 819), al-Tabarī (d 922) and abū 'Ubaydah (d.825) who regarded such a claim as a serious charge against God (al- Jawālīqī 1969: 52). According to this group, the Qur'ān refers to itself as revealed totally in Arabic (innā anzalnāhu qur'ānan 'arabīyan) which was thought to contradict the idea that there are in it any non-Arabic terms.¹

¹ For an interesting discussion on those aspects of "borrowing" in the Qur'ānic text, see Hamzaoui (1986: 139-66).

Another view was based on the fact that the holy Qur'ān was revealed to address the Arabs in their own tongue and that tongue already contained an array of foreign elements.

On this point, some scholars like abū 'Ubaid take a moderate position. He remarks that those instances which are foreign (a'jami) in their origins became Arabic by assimilation and use. Therefore, they are both a'jami and native (see al-Ṣāliḥ 1986: 317). Such a debate over "mu'arrab" has in fact been a matter of great concern for both theologians and grammarians. One may remark that most of the early investigations into the language were strongly associated with Islamic (theological) thinking which demonstrated its influence through jurisprudential methodology adopted by some philologists in the treatment of certain linguistic issues (see for example ibn al-'Anbārī n.d.: 44).

The discussion of borrowing (ta'rīb) as presented by classical grammarians and lexicographers was focused on the nature of the borrowed words and the methodology adopted in the process of their assimilation. In his remarks on the subject, Ṣibawayh (d 180 A.H.) indicates that the Arabs change foreign words which are absolutely incongruous with their own, sometimes assimilating them

into the structure of their words, sometimes not. (Sībawayh 2/375, cf. Stetkevych 1970: 59-60).

In contrast to the pragmatic view of Sībawayh, the tendency towards the preservation of Arabic has influenced the strict attitude taken, for example, by al-Jawharī (d 398 A.H.) who emphasized the necessity to observe the pattern (sīghah). A similar view was maintained by al-Harīrī (d 516 A.H.) who states that "whenever a foreign noun is Arabicized it is referred to a native word similar in both its form and structure (waznan wa sīghah). (al Harīrī 1975: 177). While some words were fitted into certain patterns, the adjustment of the mu'arrab according to ibn Barī (d 499) involves either the substitution, addition or deletion of some consonants and vowels (ibn Barī 1985: 23).

The following are examples of such alterations:

bahrah	=	bahraj
garman	=	qahramān
kardan	=	kard

The method of substitution also involves the replacement of non-native sounds (consonants) like G.V.P. by their closest equivalents K-F-B.

From their observation of the methods of ta'rib Arab lexicographers reached certain conclusions to be employed as binding criteria for the identification of "foreign" terminology.

Apart from being classified as an a'jamī by a leading scholar, it has been ruled that any word incongruous with the phonetic and structural characteristics of the majority of the Arabic lexemes is foreign. The subject attracted a great deal of attention and interest in linguistic studies. Substantial efforts were made in the tracing of foreign etymologies as is exhibited by the numerous works on the topic (see Stetkevych 1970: 58) which, as Anīs (1985: 129) concludes, have not always been based on solid and accurate grounds.

One of these features believed to indicate that a word is of an a'jamī origin is its resistance to the familiar native patterns.

An example of such deviation is usually illustrated by instances like ibrīsam and 'āmīn, for which no equivalent structure is found in the language. One, however, must point to the fact that many loan-words have been by one way or another adapted or associated to

the native structure of the language like Jibrīl, tājin, kurkum, khurram, etc.

The other method adopted for the purpose of identifying foreign elements was based on the idea of consonantal sequence and combination.

According to ibn Jinnī (d 1002), one of the following consonants B, R, F, L, M, N, which are called "hurūf al-dalāqah" should be found in any given quadriliteral or quinqueliteral noun, otherwise it is not of Arabic origins (ibn Jinnī 1954b, 1: 74). The idea is associated with the notion of "fasāḥah", correctness and Arabicness whereby "the more distant the letters in their point of articulation (makhārij al-hurūf) the better is the word" (al Suyūṭī, 1986, 1: 194). A more recent study of the subject of sound sequence and combination lends much support to that classical view.

In his study of the patterning of the tri-consonantal verb morpheme of Semitic, Greenberg (1950: 162-181) analyzed the composition of 3775 verb roots based on the lexicons of Lane (1863) and Dozy (1881). He states that his study agrees well with the statements of the early Arab grammarians and lexicographers regarding the "makhraj" place of articulation, and concludes that

in the first two positions not only identical but homorganic consonants are excluded, while in the other positions such exclusions is marked though not quite so rigorously. Those notions of sequence and combination of consonants had led the classical scholars to rule that certain sequences of radicals incompatible with the characteristics of Arabic are prominent features of non-native terminology. the examples given below are some of those feature:

N → R	= narjis
D → Z	= muhandiz
<u>S</u> + J	= <u>saw</u> lajān ~ j <u>is</u>
<u>T</u> + J	= <u>tā</u> jin
J + Q	= jawsaq

However, before going any further, it seems worthwhile mentioning that the concept of the mu'arrab has been constantly confused with that of the dakhīl and the a'jamī, a situation which reflects itself even in modern discussions on the subject (see for example Sammūd 1976: 14 : 186; al-Sayyādi, 1985; Zāzā, 1976). The vagueness seems to be a matter attributable to the lack of agreement on the nature of borrowing. An approach based on the assumption that mu'arrab in a broad sense includes all foreign words used by the Arabs

in a certain period of time (*ʿuṣūr al-istishhād*) that usually ends with the fourth Islamic century, would classify any later innovation as *dakhīl* or *muwallad*, whether structurally adjusted or not. Whereas, according to a view established on strict linguistic classification, such adjustment is the only major factor of distinction.

It is not our intention to delve deeply into the details of the classical views of borrowing. The foregoing discussion aimed only at clarifying the grounds for the following survey of the modern approach which in many respects is based on, and influenced by, the classical view, yet differs in motives and circumstances from it.

3.4 LEXICAL DEVELOPMENT THROUGH BORROWING: THE VIEWS OF MODERN ARAB SCHOLARS

As indicated in the previous discussion of the concept of *taʿrīb* in classical Arabic, the means of lexical borrowing is an old phenomenon in the process of development of the Arabic lexicon.

Yet, to a great extent the method was restricted to certain cases and treated by early Arab scholars as a feature of distinction rather than a productive means of lexical expansion and reform. Among many factors

attributed to such a position there are, (I) the nature of change and innovation and its impact on the language on the one hand and, (II) the relation between the language, with all the social and cultural significance it represents and its speakers, on the other.

The modern world with its new developments and huge base of scientific and technical terms presents Arabic and its modern sophisticated users and terminologists with an urgent demand for a rapid and comprehensive action aimed at adjusting its lexical resources to the needs of the contemporary features of modernisation.

In the nineteenth century, Arab intellectuals and academicians started a wide discussion and debate over the issue of lexical enhancement, and the means of achieving it.

Many questions have been raised about the admissability of loan-words and the place of borrowing in the set of Arabic word-formation procedures. As in many related arguments over aspects of reform, the gap between notions of tradition (*aṣālah*) and modernity (*mu'āṣarah*) constitutes an area open for controversy and dispute. To the contrary of the classical situation, the nature of change and innovation, and the place of modern

Arabic tended to play an important role in configuring new concerns towards the process of lexical innovation through the means of borrowing. Therefore, while the method of borrowing is considered by some scholars and writers as a solution which will provide a speedy answer to the language's deficiency, it has been regarded by others as a threat to the very nature and essence of the language.

Ahmad al-Iskandarī (1875-1938), a well-known opponent of the procedure, argued that the Arabicizing of generic or common nouns (asm' al-ajnās)² is non-analogical (samā'ī) as their number in the pure classical Arabic does not exceed one thousand words (al Jindī n.d.: 152). He therefore rejects employing mu'arrab as a base of analogical derivation other than those instances used by the early Arabic speakers (Ibid: 153).

A more unfavourable attitude is taken by Rasheed Bagdoonis (d 1943). He prefers as a last resort to invent a word composed of Arabic consonants and of native form (wazn) rather than adopt any foreign term what soever (MAAA, 9: 104-5, cf. Hammādī 1980: 280).

² For more details on terms like ism jins and ism 'alam, see Wright 1967: 1: 107).

In contrast with these views, al-Jābrī (Ibid, 282) states that "unless we have native equivalents of foreign terms those should be used whatever they happen to be ('ala 'illātihā) instead of struggling to coin new Arabic words.

Moreover, Salāmah Mūsā takes an extreme position when he argues that "Arabic which represented the history and sacredness of its religion was regarded as a place of refuge in the face of foreign pressure and imperialism, which in his view had led to a fear of foreign words and new expressions, though he believes the process of lexical borrowing would not be easy as long as the language continues not to be written in the Latin script (see Eliraz, 1986: 253-54).

Between the total rejection and the unlimited adoption of loan-words, however lies the mainstream of modern opinion.

While recognizing the need for borrowing thus enriching the techno-scientific lexicon of Arabic, the majority of modern scholars seem to be concerned with two main criteria revealed in the resolution passed by the Cairo Academy on the subject. The decree states that:

"The Academy (al majma') authorizes the use of some foreign words, whenever necessary, according to the Arabs' method of ta'rīb." (Majma' 1971: 83)

On that basis, Ismā'il Mazhar writes:

"We have need of ta'rīb (borrowing). Nevertheless, its purpose and extent should be clearly defined, and we should be bound by some rules. First of all the loan-words should follow one of the linguistic patterns of Arabic, no matter whether fully productive (giyāsiyah) or not (samā'ī), to maintain the ring of the Arabic words, so that the Arabs should neither have an aversion to it, nor find it incongruous with these forms of their noble mother tongue with which they are familiar. Furthermore it is worthwhile noting that ta'rīb is allowed, but in the case of urgent need (dharūrah quswā), where all other attempts at arriving at another solution through exploration, investigation or closer examination of the linguistic resources of Arabic have failed".

(Mazhar n.d.: 9-10, c.f. Drozdik, 1979: 26)

The criterion of necessity has been welcomed by many scholars like al-Sālih (1986: 321) and Mustafā al-Shihābī (1955: 63) who considers it as a necessity in itself and a barrier against unlimited borrowing.

In another approaches, the condition of necessity has been criticized and regarded as unworkable and non-productive.

Among those who express this view are Nāsīf (1952) and Muḥammad Kāmil Hussain (1955) who remarks: "for the

method of ta^ʿrīb. I do not want to make it loose without any restriction, nor do I want it to be admitted only in case of urgent need. I want it to be followed for every scientific word invented on the basis of classical (European) origins to refer to an object or certain idea, or as part of a sequence of classification, thus in certain categories of scientific terms the indication is well understood from its borrowed name like (oxygen), whereas other terms derived from the common language such as manā^ʿah (immunity) should undoubtedly be translated (MMAA 12: 28-29, c.f. Stetkevych n.d.: 150).

The other main aspect in the modern arguments on borrowing (ta^ʿrīb) is that of the criterion of adherence to the classical structure of the language. The debates on the topic reveal a similar controversial discrepancy. In a progressive attempt at the development of Arabic vocabulary, the leading defender of borrowing, ʿAbdul qādir al-Maghribī (d 1956) asked for the use of foreign words as they come down in their original forms. He declared that:

"Our position with respect to ta^ʿrīb is the reverse of that of the Arabs. Whereas they seldom let a foreign word retain its original form, we would rarely change it in accordance with the patterns of our language. Thus we pronounce telegraph, telephone, phonograph, automobile, theatre, program and many similar

words almost as they come down in their pronunciation, yet we term them as mu'arrab (Arabicized) in accordance with the method of the blessed Sībawayh (al Maghribi, 1908: 43, c.f. Stetkevych, 1970: 61).

A similar position is taken by Shawqī Amīn in his article "Jawāz al-ta'rīb 'alā ghairi awzān al'Arab (MMAA, 11: 207) and, recently by Shaheen who says that "a complete structural integration of modern terminology is an unnecessary process since the classical Arabic forms cannot include all those modern non-native terms (muṣṭalahāt) (Shaheen, 1986: 312).

In fact, the tendency towards the modification of borrowed elements in accordance with the character of the native language is a common phenomenon. However, the extent of such practice depends among other things on the degree of variance between languages. As far as the contrast between Arabic and most Europeans languages is concerned, so considerable is variance that it constitutes an obvious incompatibility and so prevents the complete assimilation and adjustment of a great number of lexical items.

This is a matter of concern for both the liberal and conservative views found among modern scholars and terminologists towards the process of lexical

development through borrowing. A liberal view on language may regard the method as a substantially productive means, though an awareness of such variance and the adherence to classical rules will erect a barrier which should be either restricted or totally abolished. On the other side, a liberal position in the adoption of foreign words will, according to Saleem al-Jindī (1929), lead to the neglect and even loss of the Classical Arabic and its literary heritage (al Jindī, n.d.: 172).

Although recognized and accepted by the majority of modern Arab scholars, the use of borrowing ta'rib on linguistic and cultural grounds has, as a method, been subjected to cautious and negative attitudes.

It seems worthwhile to conclude our survey of modern Arab views on borrowing with that of Wajeeh al-Sammān who seems to summarize those predominant attitudes:

"Ta'rib (borrowing) is a wide field for terminological creation. Nevertheless, it must not be adopted as it happens haphazardly, but according to certain rules such as these of the Arabs and as a last solution, by giving the borrowed word a native form which allows it to be included with its native equivalents, and subjected to the language's grammatical

and morphological rules". (al Sammān, 1974, 11: 307).

3.5 A GENERAL CLASSIFICATION AND ANALYSIS OF LEXICAL BORROWING IN MODERN STANDARD ARABIC

3.5.1 INTRODUCTION

A comprehensive discussion and analysis of the various linguistic aspects of borrowing as a by-product of language contact and interference is a subject beyond the scope of this survey.

We shall however deal with some aspects relevant to our investigation of the process as a deliberate method of incorporating foreign terminology in a certain level of communication namely the Modern Standard Arabic. The process of borrowing, as defined by Haugen (1950: 212), refers to the attempted reproduction in one language of a pattern previously found in another. Such process involves either retaining or modifying the phonemic and morphemic features of the borrowed element. "If the loan is similar enough to the model, so that a native speaker would accept it as his own, the borrowing speaker may be said to have imported the model into his language provided it is an innovation in that language, but insofar as he has reproduced the model inadequately he has normally substituted a similar pattern from his own

language" (Ibid). Such notions of reproduction, importation (or transfer, See Sa'īd, 1967: 36) and substitution will frequently occur in the following discussion, bearing in mind that our intention differs from the above approaches on the basis that we are interested in the observed results of borrowing which are reproduced by terminologists and sophisticated users of the language rather than a description of the process itself and the behaviour of the bilingual speaker.

Consequently, our analysis will mainly be focused on describing some features of the phonological and morphological integration of loan-words adopted and accepted in the modern written Arabic. Before examining such issues, it seems worthwhile to introduce some modern classification of types of lexical borrowing in order to clear the way for our discussion.

3.5.2 LOAN WORDS (LOAN-FORMS) - LOAN SHIFTS - LOAN BLENDS

On the basis of whether the meaning alone or both form and meaning of a word are borrowed, there are morphemic and purely semantic loans. Modern linguists distinguish three types of borrowing, the transfer of non-native words (loan words - loan forms), the use of a native word in a new designative function to render

the meaning of a foreign one (loan-shift), and the combination of both activities (loan blends). the core of our present topic lies in those called loan words (loan forms), however, the following is a brief introduction to the other two categories.

3.5.2.1 LOAN SHIFTS

Whether such cases of lexical expansion may be discussed under various headings, such as borrowing, translation, or semantic extension or not, the term refers to the transfer of part or all of the meaning of a foreign words but none of its phonetic form. In other words, it is the expansion of the connotation of a native lexeme to designate the new semantic import designated by a foreign one. This category has been classified into simple and complex models.

3.5.2.1.1 SIMPLE MODEL

This again is grouped into loan shift extension and loan shift creation. The latter group refers to examples created under the influence of foreign vocabulary through some native resources like, in the case of Arabic, the analogical method of derivation as in:

Mubarridah - thallājah:	(refrigerator)
mujammidah:	(freezer)

midyā': (radio)

To exemplify the type of loan shift extension we may "borrow" Sa'īd's (1967: 101) examples of tayyār (current) and mawjah (wave) which are used in modern Arabic to indicate some significances beyond their classical limits as illustrated below:

tayyār fikrī:	(intellectual trend)
tayyār irhābī:	(terrorist tendency)
tayyār kahrabā'ī:	(electrical current)
mawjat harārah:	(a heat wave)
mawjah min al-ishā'āt:	(a wave of rumours)

3.5.2.1.2 COMPLEX MODEL

This category covers two types of borrowing, namely, loan-translation and loan rendition. The former refers to the case when there is a full semantic matching between the model and the rendered product as in the following:

wizārat al-zill:	(shadow cabinet)
nuqtat tahawwul:	(a turning point)
sam'ī-baṣarī:	(audio-visual)

In the type of loan rendition, as the following illustrations may reveal there is only partial semantic matching between:

nāṭiḥat saḥāb	(a sky scraper)
wijhat nazar	(a point of view)
naz' al-mā'	(dehydration)

(See my discussion on tarkīb in Chapter 4)

3.5.2.2 LOAN BLENDS

The term can be applied to refer to the outcome of a process that combines the transfer of part of a foreign compound and the substitution for the other part of an Arabic stem (Sa'īd, 1967: 108).

Such process is largely restricted to chemical terminology yet some other uses of Modern Standard Arabic show the case of adding a foreign suffix to a native lexical item as the following examples may serve to illustrate:

sulphuric acid:	ḥāmidh al-kibrītīk
	kibrīt (sulphur) + īk (ic)
acetic acid:	ḥāmidh alkhallīk
	khall (vinegar) + īk (ic)
acetylene:	khal līl

khall (vinegar) + īl (yle)

carbonyl: fahmīl

fahm (coal) + īl (yle)

glucoside: sukkarīd

sukkar (sugar) + īd (ide)

ideology: fikrūlūjiā

fikr (idea) + lūjiā (logy)

mythology: ustūrlūjiā

ustūrah (myth) + lūjiā (logy)

axiology: qīmūlūjiā

qimah (value) + lūjiā (logy)

ontology: kā'inlūjiā

kā'in (existent) + lūjiā

(logy)³

3.5.3 LOAN-WORDS (LOAN-FORMS)

3.5.3.1 INTRODUCTION

Loan words/forms include cases of lexical borrowing where the meaning and part or all of the phonemic shape of a word are diffused from one language and used in the context of another as in the following:

³ For a detailed discussion of the role of such aspects in the processes of Arabic lexical development, see al-Shihābī (1965c: 361-63) and 'Alī (1987: 78-80). The latter however used the term "hybrid naḥt constructions to refer to the above type of formations.

democracy:	dīmuqrātīyah
bacteria:	baktīriā
radar:	rādār
oxide:	oksīd
liberalism:	libralīyah

The above (and many other) loan-words lie at the basis of our approach to lexical borrowing. We will try in the following pages to remark on some phonological and morphological aspects of the process of their integration and use in Modern Standard Arabic.

3.5.3.2 PHONOLOGICAL INTEGRATION OF LOAN FORMS

The attempted method of lexical borrowing may involve various features of importation and substitution of the phonemic components of the borrowed items illustrated by evidence of retaining, replacing, deleting or adding some consonants or vowels. Before presenting such phenomena it seems necessary to point out that the process is to some extent a variable one for a variety of reasons, including a speaker's concern to achieve a certain type of pronunciation, the effects of his own dialect, and the influence of the system adopted for writing those borrowed words. Thus, while the following general remarks are mainly based on what appears to be a common form of both written and formally

uttered material, one cannot fail to add that there are controversial instances in Arabic especially of retaining or substituting non-native consonants, which constitute one of the common features of linguistic interference.

Those sounds which are not originally found in the language's own system are either retained in their own form or replaced by similar Arabic sounds. The consonant "G", for example, has in various respects been imported as an innovation with different forms of written shapes as follows:

Gwātimāla:	جواتيمالا - چواتيمالا
al-Urugwai:	ألا دروجواي
al-golf	أالجولف - الجولف

The other example is the introduction of the phoneme -ch- as a result of the importation of names like "Churchill" and "Chile", usually written as a combination of the letters - t - ت - and - sh - ش

Similarly, a few modern cases show the integration of non-native sounds like those of "v" and "p", as in the words given below:

vītnām:	ڦيٽنام
viennā	ڦيٽنا
vīto	ڦيٽو
prūnāi:	پرونائي
apullū	اپوللو

In contrast with the above rarely occurring examples, the majority of loan-words exhibit a tendency towards the substitution for those and other phonemes of closest native ones as we shall notice in the following:

panama:	banamā
Pakistan:	bākistān
glucose:	jlocūz
volt:	folt
kangaroo:	kanghar
democrate:	dīmugrātīyah
battery:	battārīyah
sodium:	godium

In addition, conscious and sub-conscious attempts at reproducing borrowed vocabulary in a manner harmonious with the structure of Arabic involve several kinds of deletion, addition and modification of various consonants and vowels as illustrated below:

iodine:	yūd
platinum:	blātīn-bilātīn
diplomatic:	dīblumāsī
dollar:	dūlār
studio:	ustudio

3.5.3.3 PATTERN CONGRUITY:

Adjusting loan-words to the structure of Arabic patterns (qawālib) is (as earlier mentioned) one of the main and frequently emphasized means in discussions on lexical borrowing in Arabic. The phenomenon however is exclusively linked to the nature of the loan words in terms of their similarity or variance with the patterns, and the type and extent of modifications aimed at achieving that congruity.

Bearing in mind the fact that the great majority of modern Arabic loan-words are of English or French origin with very rare cases of full structural congruity with native lexical resources, we shall consider as congruous those examples of foreign terms which show (even with little phonological modifications) a kind of compatibility with Arabic forms (Awzān).

Consequently, these which cannot be fitted in any of the Arabic forms will be labelled as incongruous.

The following are some examples of congruous and incongruous English and French lexemes:

Congruous:

litre	(Fre.)	}	cicc:	ism & 'irdh
film	(Eng.)			
Metre	(Fre.)			
consul	(Eng.):		cuccuc:	hudhud.
contour	(Eng.):		cuccuc:	julmūd.
bank	(Eng.):		cacc:	qalb
technique	(Eng.):		ciccic:	tilmīd.

Incongruous:

bacteria.
kerosene.
studio.
hysteria.
transistor.

3.5.3.3.1 CONGRUOUS AND INCONGRUOUS LOAN WORDS

With regard to their congruity with Arabic patterns (siyagh) modern loan-words could be classified into two general categories, congruous and incongruous. The former class includes those integrated and structurally

adjusted borrowings which (even on a theoretical basis) could be given a similar native structure (wazn) like bank (bank), mitr (metre), inzīm (enzyme) and munāwarah (manoeuvre). The other class covers imported or modified words with no equivalent Arabic forms such as the following examples:

bacteriã
ustudio
dīmuqrāṭīyah
trānzistor.

Structurally congruous borrowed words are, either happened to be of a structure similar to native words or subjected to certain types of adjustment for that purpose. However, they vary in the degree of compatibility with Arabic, owing to their nature in form and component radicals. Before exemplifying this aspect let us introduce some of those structurally adjusted loan-words:

foreign words	adjusted loan words	structure	structurally similar native words
enzyme to acclimate workshop manoeuvre capsule technology iodine	inzīm aqlamah warshah munāwarah Kubsūlah tignīyah yūd	ciccīc caccacac caccac cucācacac cuccūcac ciccīcac cūc	qindīl tarjamah wahshah muhādharah urjūzah mihnīyah ‘ūd

Although the above loan-words have been analogically adjusted in accordance with some native patterns one can refer to their types of structures and component radicals in order to evaluate their degree of agreement with the language's own system and character.

To deal with this issue, let us start with that of *tiqnī* (technical) and *tiqnīyah* (technology) which are composed of *-tiqn-* and the suffixes *'-īy-* and *'-īyah-* respectively. The interesting feature in this example is not the compatibility of their forms of *fi'li* and *fi'liyah*, but rather the sequence of their radical components of *-t-q-n-* which are traceable in Arabic in expressions with a slightly similar connotation in "*ibn Tiqn*" (a known skilled man), and *itqān* (perfection).⁴

In a similar situation, the loan word of *munāwarah* which has been formed in accordance with the pattern *mufā'alāh* together with its derived verbs of *nāwar*, *yunāwir* shows a root and a pattern both found in the language, yet such a combination is an innovation, with

⁴ The prefix (techno) has been translated into the Arabic word "fann" which besides its general meaning of art, indicates, the idea of skill (See al Mawrid, 1983: 954, and al Khaṭīb, 1982-19-1: 37).

no semantic relation between the root N-W-R- (light) and its new position in that adjusted structure.

The same may be said about aqlamah (to acclimate) where the sequence of the radicals Q-L-M is a native one: in qalam (a pen) and taqlīm (nail cutting). Such congruity however is of a rare occurrence, the great majority of adjusted loan-words are built up of a sequence of consonants which is not originally found in Arabic, such as:

w-r-sh	warshah (workshop)
b-n-k	bunūk (banks)
f-l-m	aflām (films)

3.5.3.4 THE INFLECTIONAL FORMATION OF LOAN-FORMS

In addition to the process of adjusting borrowed vocabulary to the structural characteristics of Arabic forms, a great deal of modern Arabic loan-words show many types of inflectional arrangements achieving some kind of analogical regularity with the language's common character. One of the most frequent aspects of such process is the prefixation of the definite article ('adāt al-ta'rīf) "al" which, together with the suffixes of -'īy- and -'īyah-, constitutes the general mark of a

considerable mass of modern terminology incorporated into Arabic as in the cases given below:

- al-librālīyah:
(al-librālīyah al-ḥadīthah) (modern liberalism)
al-aḥzāb al-librālīyah (liberal parties)
- al-dīmuqrāṭīyah:
(al-dīmuqrāṭīyah al-gharbīyah) (western democracy)
- al-ithnīyah:
(al-majmū'āt al-ithnīyah) (ethnic groups)
- al-bankīyah:
(al-ḥisābāt al-bankīyah)
- al-rūmānsīyah):
(naz'ah rūmānsīyah)(romantic inclination)
- al-KālSyum:
(fusfāt al-KālSyum)(calcium phosphate)
- al-mītafīzīqīyah)
(al-jawānib al-mītafīzīqīyah) (metaphysical aspects)
- al-rādikālīyah:
(al-ittijāhāt al-rādikālīyah)(radical trends)

However, word- formation process of the suffixation of -'īyah- as employed in the above adjectives has been a method authorized by the Cairo Academy for the

formation of the new abstract nouns (al-masdar al-sinā'ī) (See 2.8).

3.5.3.4.1 THE PLURAL

The pluralization of a loan word is another common aspect of the process of inflectional formation that serves as a method of lexical development and adjustment to the grammatical system of the language. The activity involves either the modification of a given stem or the addition of one of the alternates of the plural suffix.

Attempts at establishing a systematic classification which leads to a determined predictability of such activity seems to be met with doubt and controversy.⁵ This is attributable to some factors associated with the nature of the phenomenon of pluralization in Arabic grammar in general, and the loan words themselves as innovations in particular. The existence of the various patterns of plural with some kinds of interference and multiplicity is one of those factors behind the lack of a definite direction(s) in this respect. The following are a few examples

⁵ Such an attempt however has not been observed, the only cited reference on the subject is "an attempt at partial predictability of the plural of a loan-form on the basis of the structure of its singular" in Sa'id's study on lexical innovation in modern standard Arabic (1967: 70-81)

whereby singular forms of the pattern (fa^ʿl) are differently pluralized:

qalb (a heart) qulūb

ʿabd (a slave) ʿabīd - ʿibdān - ʿibād

nahr (a river) anhār - anhur.

The other factor which is related to the borrowed terms themselves is exhibited by the fact that each word is individually treated according to its structural similarity with a native word.

The following congruous loan-words are pluralized by stem modification on a basis analogical with other Arabic equivalents:

mīl (mile): amyāl - ʿīd: ʿaʿyād

bank (bank): bunūk - baḥth: buḥūth

tann (ton): atnān - lahn: ʿalhān

film (film): aflām - jism: ajśam

mitr (metre): amtār - " "

Many other loan words however deviate in one way or another from such analogical agreement, as they are pluralized in a totally different manner. Loan-words belonging to this category reveal the tendency towards

the use of the feminine plural suffix -'āt- in a considerable number of cases. Below are selected terms pluralized in such a way:

dūlār: (dollar) dūlārāt
 kūbūn: (coupon) kūbūnāt
 frank: (france) frankāt
 tīlīfūn: (telephone) tīlīfūnāt
 tilifizyūn: (television) tilifizyūnāt
 lord: (lord) lurdāt
 fītāmin: (vitamin) fītāmināt

In other cases, the suffix -'āt- is preceded by the sound (h) as:

ustudyū: (studio) ustudyūhāt
 rādyū: (radio) radyūhāt
 Kāzino: (casino) cāzinūhāt
 sīnaryū: (scenario) sīnaryūhāt

Moreover, some loan-words which end in (a) or (h) are analogically treated as feminine and accordingly pluralized as such:

idyulūjīyah: idyulūjīyāt (ideology)
 tiqnīyah: tiqnīyāt (technology)

munāwarah; munāwarāt (manoeuvre)

kāmīrā: kāmīrāt (camera)

Others which fit into patterns of similar native singular words are usually given their manner of pluralization like:

fātūrah: fawātīr:(qārūrah: qawārīr)

fillah: filal:(millah: milal)

The pluralization of adjectives that end in the nisbah suffix 'īy - and/or 'īyah like burjuwāzī (masc.) and burjuwāzīyah (fem.) is usually achieved through the process of the suffixation of -'ūn- and -'īn-, or -'āt.⁶

Though in some similar cases that refer to aspects of nationality, the process involves the subtraction of the nisbah suffix as the following examples indicate:

afghānī: (al) afghān

inglīzī: (al) inglīz

armanī: (al) arman

⁶ 'ūn- (in a nominative case)
'īn - (in a genitive and an accusative case)
'āt- (in a feminine case).

A few examples of the category concerned are pluralized through stem modification as in:

hindi: hunūd

afriqi: afāriqah

balshafi: balāshifah

3.5.3.5 LOAN DERIVATIVES

The term "loan derivative" here refers to the outcome of a formational process whereby certain consonants are abstracted from a nominal loan word and "as a root" combined with a native pattern in order to create another verbal form of that loan word. In the following example, the abstracted radicals ', K, S, D, are fitted in the quadriliteral verbal form fa'lala together with its various conjugations to generate varieties of loan derivative exemplified below:

uksid (oxide):

'aksada - yu'aksidu - mu'aksid

'uksida: yu'aksadu - mu'aksad

ta'aksada - ta'aksud

'aksadah.

As the above examples indicate, the result of such process is a morphemically congruous word built up on a

frame work of a borrowed root and a native structure. Yet despite their productivity and agreement with the language's morphological system such derivatives constitute a small minority in the modern standard Arabic terminology. The underlying reasons are several chief among which seemsto be related to the langauge's own derivational rules (qawā'id al-ishtiqāq) on the one hand, and the very nature of the activity itself on the other. As far as those rules are concerned derivation must be made only from verbs or verbal nouns. Thus the authorization of the use of concrete (native) nouns for such process has been restricted to cases of necessity in the creation of scientific terms (See Majma' 1971: 9). Such restriction would inevitably discourage attempts at giving those "usually" nominal loan words a chance to be established as bases for further derivation.

The other factor which seems to contribute to the limited sphere of the method is related to the nature of the process itself and associated with aspects such as, the number of consonants of the given loan word, their type of sequence, and above all the agreement or disagreement of those aspects with the language's own features.

Since Arabic roots are largely trilaterals and infrequently quadrilaterals, the abstracted consonants will necessarily be accommodated to such classification. Such case will inevitably make an attempt to abstract a "root" from the different modern terms composed of a number of consonants a matter of an arbitrary selection which, may lead to cases of ambiguity. Consequently, a certain category of modern loan words seems to be established in a position out with the framework of this derivational process.

On the other side, whereas the number of consonants does not seem to be the main issue, the concern is focused on aspects of homogeneity and ambiguity. The great majority of modern loan derivatives are of a quadrilateral rather than a trilateral root, despite the fact that latter is more capable of combination with a variety of native forms thus providing a wide range of loan-derivatives. Two explanations are offered to account for this phenomenon. Sa'īd (1967: 92) states that " the number of native tri-consonantal roots is extremely large. The productivization of abstracted roots would surely lead to homonymity and hence ambiguity. Since the number of native quadri-consonantal root is rather small the productivization of this class has a weak capacity for homonymity and ambiguity. The

other factor, he goes on, has to do with the number of consonants in the solid stem of loan forms. The number usually exceeds three, hence the statistical probability is on the side of quadri-consonantal abstraction.

Bearing these implications in mind, one must point out that the general attitude of modern Arab terminologists and writers towards such means of lexical expansion does not seem to be a favourable one. The attitude which plays an important role in this respect could be illustrated in the following points:

- (I) The occurrence of loan derivatives with such trilateral roots that do not carry any probability of a homophonic clash. Few examples of such derivatives have gained some common acceptance in scientific field such as:

kallasa - takallus (to calcine)

'ayyana - ta'ayyun (ionization)⁷

⁷ The root 'y-n is in fact found in the native particle 'ayna (where). Probabilities of ambiguity will arise only when attempts are made to derive verbs and magaders (verbal non) from that particle like 'ayyana - yu'ayyin on analogical basis with sawwafa - yusawwif which is derived from-sawfa-(will).

(II) Examples of quadrilateral roots are infrequently adopted in Modern Standard Arabic despite their weak capacity of homonymity. They are again usually found in certain areas of the language. Examples:

- hidrūjīn (hydrogen)

hadraja

hadrajah

muhadraj

- klūr: (chlorine)

kalwara

kalwarah

- uksujīn: (oxygen)

aksaja

aksajah

- fisyūlūjia: (physiology)

faslajah

(III) The use and acceptance of this procedure has been to a considerable extent confined to scientific terminology. Other areas of the language show a rare application of the method which may reveal the selective attitude of modern Arab writers and terminologists.

On that account, one can safely conclude that various factors are involved in the process of borrowing in general, and the derivational productiveness of a borrowed word (mu^ʿarrab) in particular.

These factors are motivated by either some social and/or psychological grounds which participate in shaping a negative or a positive attitude towards the means, or by the (mentioned earlier) linguistic factors associated with consonants (root) of a given loan-word that may affect its derivational applicability.

Taking those factors into consideration one may question the implication of the structure of loan-words on such a type of productiveness. Apparently, the issue has rarely been raised and brought out for thorough discussion and examination. However, in his recent study of the development of scientific vocabulary in standard Arabic, Ali (1987: 114) states that "loan forms that have not been analogically Arabicized⁸ have failed to produce

⁸ The term analogical Arabization, as Ali (1987: 112) puts it, "refers to the process whereby a loan form is rendered fully harmonious with the Arabic character, from the point of view both of its phonological and morphological structure. In other words, the result of this process should be describable in terms of being a lexeme whose constituent phonemes form part of the native phonological system, whose morphological pattern is exhibited by native words and which can be said to derive from a root consisting of three or four radicals which are abstracted from the original loan-word". We nevertheless prefer Sa'īd's (1967: 80) notion of pattern congruity in our survey of structural

further derivatives, let alone their incompatibility with the Arabic character".

Bearing the "advantages of such adjustment in mind it seems that the above general conclusion is not immune to criticism. Many contradictory examples reveal the fact that the "structure" has not always been playing a major role in the matter of generating loan derivatives.

The above examples of hadraja - kalwara - aksajah, and aksada as well as many other similar derivatives may serve to illustrate our point, where their assumed roots are abstracted from the (non analogically Arabicized) incongruous loan forms of hidrujīn - klūr - uksīd and uksijīn respectively.

Similarly, "the root t - l - f - z", as Ali notes, "has recently been abstracted from the loan tilifizyūn "which is clearly out of line with the Arabic structure" and new derivations based on it are gradually gaining currency; there are thus talfaza, talfazah, tilfāz.(Ali: Ibid.: 114).

In his discussion on using concrete nouns for the process of derivational generation (al-tawlīd al-ishtiqaqī) of verbs and verbal nouns, Shaheen 1986: 348) quotes some similar examples authorized by the Cairo Academy like:

mumaghna <u>t</u> - mumaghta <u>s</u> (magnetized)	>	maghnā <u>t</u> īs
		(magnet)
mukahrab (electrically charge)	>	kahrabā'
		(electricity).

Moreover, Shaheen adds that "mu'arrab or dakhīl could become a source for such processes as generate talfanah from tilifūn (telephone), and bastarah from bastūr (Pasteur) (Shaheen, Ibid., 386). Clearly these loan forms of maghnātīs, tilifizyūn, bastūr are incompatible with Arabic native (awzān) patterns.

Finally, it seems worthwhile to mention that in cases where the consonants of a loan-word exceed four, the process of "root abstraction" is marked by an arbitrary selection of radicals. A similar case is however found in the old process of naht which is realized through a selection of certain phonemes from compound words or a sentence in order to create a new lexical item (see 4.1.3)

3.6 A BRIEF VIEW OF THE APPLICATION OF LOAN-WORDS IN CONTEMPORARY WRITTEN ARABIC

A brief sight of some modern Arabic dictionaries and other written materials will reveal a paucity of borrowed terms in comparison with the other native means of lexical creation and development. This phenomenon is reflected even in specialized materials which deal with techno-scientific terms and topics. In his examination of loan words in "a highly technical article in economics discussing in a purely theoretical manner the application of Keynes's multiplier theory to underdeveloped countries", Issawi (1967: 125) remarks that in this 6,000 word article only three European words were used: *istātīkīy* (static), *dīnāmīkī* (dynamic), and *mīkānīkī* (mechanics).

In a similar recent statistical review of the vocabulary of three dictionaries of physics, petroleum and medicine issued by the Co-ordination Bureau of Arabization in Rabat, 'Abderrahmān (1982: 72) found that the first one which is composed of 5126 entries included only 50 borrowed terms, the second dictionary of petroleum, has 78 loan-words out of a total of 3802, and the last one, with 2305 entries on medicine had no instances of lexical borrowing.

The paucity of loan-words in other literary written materials is another illustration of this situation which seems to be motivated by two factors. On the one hand, writers dealing with modern literary and abstract fields of knowledge, tend to include certain types of non-native terminology which either have not been totally replaced by native expressions or are associated with some specific connotations in their original forms. This may be exemplified by the following frequently occurring terms:⁹

idywālūjī (ideological)

braghmatīyah (pragmatism)

dīmāghūjīyah (demagoguery)

al-dayālīktīkīyah (dialectics).

On the other hand, some modern Arab novelists introduce examples of loan words adopted in the common daily practice of the language, yet the number of examples of this type remains very small.

⁹ The poet Nāzik al-Malā'ika criticizes, what she called, the insistence of some modern translators on retaining those examples like: folklawr (folklore), akādīmīyah (academy) and imbiryālīyah (imperialism), which she considers one of the phenomena of 'ujmah. The obvious negative consequence of that phenomenon may however arise from the probable lack of communication between a reader and the text that contains some of those technical and abstract borrowed terms (see al-Malā'ikah: 1974).

In this respect, we may refer to a work done by Issawi, which is an attempt to investigate the use of foreign words in Arabic through a study of the modern European words in the Egyptian novel *The Trilogy* by Najīb Maḥfūz: *bain al-qagrain* (1956), *qagr al-shawq* (1957) and *al-sukkariyah* (1957).

Although Maḥfūz does not seem to go out of his way to avoid foreign words as do some other writers, the striking fact as Issawi (1967: 112) argues "is the small number of European words, 144 in all with a total frequency of 788, which would constitute at most 1.5 per cent of the total of 10,000 words used in that novel". Issawi also studied another novel by Yūsif Idrīs, *al-ḥarām*, and found that the number of European words in it is 41 with a frequency of 137 or some 0.45 per cent of the total number of words (Ibid.: 120). Those findings have led Issawi to draw the general conclusion that foreign words constitute about one per cent of the vocabulary used in current Arabic writing (Ibid.: 124).

CHAPTER FOUR

THE PROCESSES OF TARKĪB, AND NAHT (COMPOUNDING AND BLENDING)

4.1 A GENERAL INTRODUCTION AND DEFINITIONS

Our aim in this chapter is to present a general view and discussion of aspects of tarkīb and naht, and their role and significance as two processes of Arabic lexical formation and development. It seems worthwhile however to indicate at this point that we shall employ the notion of tarkīb in the general sense of compounding whereby "a compound is a linguistic unit composed of elements that function independently in other circumstances" (Crystal 1985: 63).

In a similar way, as a means of abbreviation ('ikhtisār) of such compound units, naht may be identified with blending which can be specified as "the formation of a new lexeme from parts of two (or possibly more) other words" (Bauer 1983: 234). Yet owing to the fact that various discussions on the subject reveal an absence of common agreement on a precise definition and specification of aspects of these notions, indeterminacy arise in actual linguistic description. It

seems necessary therefore to start our investigation with an introduction to the above notions in order to establish the bases of our attempt to discuss the nature, significance and actual use of the processes of tarkib and naht in adapting Arabic vocabulary to the growing demands of modern development.

4.1.1 COMPOUND

The above mentioned general notion of compound is frequently applied to compound words "consisting" of two or more free morphemes as "bedroom", "rainfall" and "washing machine" (crystal Ibid). The notion of free morpheme is relevant in the distinction between compounding and affixation, as unlike derivational and/or inflectional processes compounding does not involve affixes at all, but simply the adding together of any two root or stems (Allerton and French 1975: 119, c.f. Emery 1988: 32).

Similarly, a compound as defined by Langacker is "a lexical unit consisting of two or more full morphemes (1967: 78). Regarding affixation as the adding of an empty morpheme to a full morpheme as in "unhappy" Langacker (Ibid.), gives a variety of such more common compounds in English characterized by a special stress

pattern whereby the first full morpheme is pronounced with much greater emphasis than the second, as follows:

textbook

wasteland

grandstand

longbow

white cap

bloomer girl

bedside

sunburn

gas mask

water tower

4.1.2 BLEND

As previously indicated, a blend can be defined as a new lexeme formed from parts of two or more words. The following are some of the frequently given examples of this phenomenon in English:¹

ballute: (balloon + parachute)

chunnel: (channel + tunnel)

brunch: (breakfast + lunch)

motel: (motor + hotel)

¹ For more details on English blends see Jespersen (1938) and Bauer (1983).

smog: (smoke + fog)

The general feature of blending seems to be associated with the omission or clipping of part or parts of the source forms. The activity may take various routes. In addition to the above given instances where both words are melted, we have other blends in English where either the first or the second lexeme may be preserved intact as the following may serve to illustrate:

foodoholic: (food + alcoholic)

Eurasia: (Europe + Asia)

4.1.3 NAHT

In the general sense, the word *naht* means the cutting, carving or chiselling out of stone, wood, etc. (see al-Shihābī 1959: 545). The word itself appears in the same context in the Qur'anic verse:

”وَتَخْتُونَ مِنْ أَجْبَالٍ مَبْنُوتًا فَا رَهْيْنَ” (26/149). Under

that notion of creating or forming something out of parts of another, the term *naht* has usually been used in Arabic linguistic studies to refer to the formation of one word from two or more other words with some kind of correspondence in both meaning and form as al-Shihābī (Ibid.) puts it:

”وَمِنْ الْمَعْرُوفِ أَنَّ الْفَتْحَ فِي الْإِصْطِلَاحِ

إِنْتَزَاعُ كَلِمَةٍ مِنْ كَلِمَتَيْهِ الْوَاحِدَيْنِ، عَلَى أَنْ
يَكُونَ تَنَاسُبٌ فِي اللَّفْظِ وَالْمَعْنَى
بَيْنَ الْمَخَوَاتِ وَالْمَخَوَاتِ مِنْهُ

The activity has been regarded by ibn Fāris (d 395 A.H.) as a type of (ikhtisār) abbreviation (ibn Fāris 1910: 227), which the Arabs "according to al-Khalīl ibn Ahmad" resort to in the case of having two "frequently" combined words, by adding letters (hurūf) of one of them to letters of the other (See ibn Manzūr, 14: 230)

Classical as well as modern examples of naht reveal such a type of blending whereby certain components of two (or possibly more) words are abstracted to form a single lexical item. The following are some classical examples quoted by al-Suyūṭī (1986: I, 482-85) and al-Tha'ālibī (N.D.:206):

'abshamī :	belongs to	('abd shams)
'abdarī :	belongs to	('abd al-dār)
'abqasī :	belongs to	('abd al-qais)

hawqala: represents the formula (lā-hawla walā
quwwata illā billāh)
hamdala: represents the formula (al-hamdu lillāh)

basma^{la}: represents the formula (bismi^{llāh})

Sildim: > (sald + adm)

julmūd: > (jamada + jaluda)

Modern examples of the process of *naht* indicate that there is a tendency in the languages towards merging compound and multilexical units into single lexical items as in the following:

ta ^h mar:	ta ^h ta a ^h mar:	infra-red
shiblawr:	shibh billawr:	crystalloid
halma'a	hallal'a mā'	hydrolyze
shibjāz	shibh zujāj	hyaloid
shibzāl	shibh zulāl	albuminoid
zahraja	azāla al-hidrūjīn	dehydrogenate

The above examples of modern Arabic blends (man^{hūt}) seem to signify a "need of *naht* to convey the scientific and technical meanings in short Arabic words (Hamrūsh 1947 c.f. Majma' 1971: 9).

However, modern approaches to the subject exhibit a notable discrepancy in applying and establishing the concept of *naht*. The term is usually identified with compounding and tarkīb. Though, the notion has been applied to refer to a process where "the two words are

simply added to one another with their component elements preserved intact" (al Hasri 1975: 44). Such views towards the notion has led scholars like al-Hasri (Ibid.) and Stetkevych (1975: 51-54) to exemplify naht with the following two categories of lexical units:

(1)	qabmanṭiqī	qabla manṭiqī
	qabbulūghī	qabla bulūghī
	qabfahmī	qabla fahmī
	sarmanah	sayr + manām

- (2) lā markazīyah
 lā dīniyah
 lā ta'āwuniyah
 lā silkiyah
 lā akhlāqī
 'an markazī

The confusion between naht and tarkīb is clear from the various views presented by Khalīfah (1975: 58) who writes: "Tarkīb is a matter of naht, yet some linguists consider them as one thing, others regard naht and tarkīb as types of ishtiqaq (derivation), finally, as he continues, some modern linguists identify naht as a method of tarkīb and ikhtizāl (abbreviation).

Panahy (1971) identifies the process of naht with the concept of "al murakkab al-mazjī" which according to him, is a process of composition whereby one or two consonants from each compounds are kept while the rest of them are dropped (Panahy 1971, 8 : 183). The following are examples of murakkab mazjī given by him:

lā shay'	lā + shay'
barmā'i	bar + mā'
mishlawz	mishmish + lawz
māfawsajī	mā + fawqa + banafsajī
anfami	anf + fam

Obviously, while the above examples of murakkab mazjī include cases of naht in terms of dropping some consonants, they also contain other types of composition where the constituent elements of the compound unit are preserved intact as in (lā shay') and (barmā'i)

In another approach the notion of tarkīb mazjī has been referred to as one of two types of naht.

After defining the process of naht as "the formation of one word from two or more other words which is a type of "ikhtisār" abbreviation, Minajian (1972:

162) gives the term a wider application when he recognizes two kinds of naḥt: tarkīb naḥtī; the formation of one word from parts of two or others, and tarkīb mazjī which he defines as "the generation of a term from two or more other terms without omitting any of their elements (aḥruf), but simply adding one to another to form a single word in terms of pronunciation and writing (Ibid.: 173).

A more general view was expressed by 'Abdullah Amīn (1956) who employed the concept of al-ishtiqāq al-kubbār in the sense that the meaning of ishtiqāq (derivation) covers that process of naḥt, as both refer to the generation of "something" from another whether the source is a single word or a multi lexical unit (see al-Sālih 1986: 243).

A different attitude towards the phenomenon has recently been expressed by some modern linguists.

Ali (1987) devotes special attention to the subject. He states that "more often than not Arab as well as non-Arab writers use the term "compounding" to refer to a word-formatational process traditionally known in Arabic by the name al-naḥt, this word has commonly been used by Arab grammarians to denote the principle of

lexical creation whereby one or more radical consonants of more than one root take part in the formation of a single lexical item" (Ali: 1987: 61).

Thus while Ali recognized the applicability of blending in the case of Arabic *naḥt*, he (Ibid., 60-61) prefers to refer to the process by its Arabic term itself.

To conclude our review of the various approaches to the concept of *naḥt* we may refer to the distinction between this process on the one hand and compounding and *tarkīb* on the other hand as advanced by Abderrahman who remarks that "it is worthwhile mentioning that *naḥt* differs from *tarkīb* on the basis that in the later process the component elements of the two words of the compound are preserved intact (Abderrahmān (1982: 68) (see also Shaheen 1986: 291 and Ali 1987: 61).

4.1.4 TARKĪB (COMPOUNDING IN ARABIC)

By identifying Arabic "murakkab" with the general notion of a "compound" composed of elements that function independently in other circumstances, we may be able to regard as an Arabic compound "murakkab" such lexical units as consist of two lexical items like "ghurfat nawm", "hazzah ardhiyah", "lā sāmiyah", etc, on

the basis that the latter category is neither an inflectional nor a derivational affixation in Arabic morphology.

Yet, the concepts of compounding and tarkīb as applied in Arabic, continue to form an area open for debates and differences of opinion. We have pointed earlier to such cases of confusion between the two concepts and naht. Still, the definitions of and criteria for recognizing Arabic compound words are variable. The usual notion of referring to this category of words in Arabic is al-murakkab al-mazjī, though, as will be indicated later this notion has in many respects been associated to the grammatical form of the given lexical unit.

In his Kitāb, Sībawayh (d 180 A.H.) gives a brief description of the different grammatical treatments of what he exemplified under the heading of "the two things added to one another and considered as one single noun". The following are some of the instances given by him (Sībawayh 1317, I: 49) in this regard.

Maʿdīkarīb

hadhramawt

baʿlabakk

rāmahurmuz

haysa bays

yawma yawm:

sabāha maša':

māra sarjis:

Sibawayh's interest in the phenomenon of i'rāb has led him to observe that while such "combined" examples are regarded as single nouns in terms of their (i'rāb) case endings he does not rule out the possibility of their being treated as phrasal construction.

A compound, "grammatically" regarded as one single word in terms of its case ending, is usually known as murakkab mazjī. The term "tarkīb mazjī" as defined by the Arabic Language Academy refers to "the combining of two words into one word in terms of its structure "binā'" and i'rāb whether the original words were Arabic or Arabicized" (see al-Shihābī 1965a: 712). On that basis the following compounds may represent that type of tarkīb mazjī:

lā janahī

ba'labakk

ra's māliyah

Note that the first part of a compound in the above examples "lā - ba'l - ra's is usually subjected to an invariable form of i'rāb, while the second part's case ending depends on the syntactic position of the compound in a sentence. In contrast with that "limited" definition of tarkīb mazjī given above, Minajian (see 4.1.3) and recently El Mouloudi (1986: 245) extend the notion to cover some categories referred to as tarkīb mazjī idhāfī, as follow:

māni' al-takhaththur:	anticoagulant
rāsim al-dabḡā bāt:	oscillograph
mujassim al-suwar:	stereoscope
miqyās al-ish'ā':	radio meter

With regard to the notion of compounding, whereas the elements constituting the compound words are preserved intact, Ali (1987: 61) remarks that the Arabic construction which may be described as the nearest in nature to this type is the one referred to by the term "al murakkab al-mazjī".

Restricting the term to "those single morphological units which can easily be handled in grammatical and structural process", Ali (Ibid.: 82) prefers Zgusta's (1971) term "set combination" as a useful and economical

term to designate such multi lexical units which are capable of functioning as single wholes and may be said to convey a lexical meaning as:

kātim al- <u>sawt</u>	silencer
shibh jazīrah	peninsula
nā <u>t</u> i <u>h</u> at sa <u>h</u> āb	sky scraper
al <u>h</u> arb al-bāridah	the cold war ²

(See Ali, Ibid.: 73:-74)

Other Arabists and Arab linguists have taken a wider definition of both terms of tarkīb and compounding as applied to Arabic. Drozdik (1967) quotes the opinions of scholars like Wehr (1943) who considers as compounds such constructions as: qā'id 'āmm, maḥkamat isti'nāf, firqāt matāfi'. For Brockelmann (1913) the main compound generating syntactic pattern is that of the construct state, e.g. ḥabqarr, rasmāl and māward (See Drozdik, Ibid.: 68-71).

In a similar way 'Abderrahmān (1982: 68) exemplified tarkīb in Arabic with the following:

rajul 'a'māl

² See (3.5.2.1.1) and (3.5.2.1.2).

hazzah ardhiyah

ghārah jawwīyah

On such basis of recognizing tarkīb as the combination of two lexical items to form a single phrase with a specific significance, Shaheen (1986: 390-93) gives the following compounds as representing the various grammatical types of tarkīb in the Arabic language:

tarkīb idhāfī:

'abdul lāh

hujjat al-islām

jamālulddīn

tarkīb 'adadī:

ahada 'ashar

khamsata 'ashar

tarkīb itbā'ī:haysa baystarkīb wasfī:

fātimah al-zahrā'

tarkīb maṣdari:

qā'im maqām

tarkīb mazjī:

ba'labakk

bukhtnassar

la + word :

lā-siyāsīyah

lā-silkī

lā-dīniyah

lā-mubālāh

In the following pages we shall illustrate some forms of tarkīb adopted in the process of coining new Arabic lexical units to express a variety of modern innovations.

4.2 TARKĪB AS A MEANS OF NEOLOGISATION IN MODERN STANDARD ARABIC

It seems obvious that a great deal of the modern Arabic terminology has been established (through various channels of lexical expansion) to signify a variety of innovations for which English and French have for the last two centuries been the main source.

The fact that the majority of modern European technical and scientific terms are compound words, composed of various native and "neo-classical" Latin and Greek elements has given rise to the use of tarkīb as one way of adapting Arabic terminology to those expressions.³

³ Wajeeh al-Sammān, a member of the Syrian Academy (1974 11: 304) emphasizes the importance of this aspect in the modernisation of Arabic vocabulary. He states that when coining scientific terms, we should not strongly deviate from the styles

The following are examples of the phenomenon categorized according to the general appearance of their grammatical and structural forms. We are however aware of the fact that a variety of sub-classifications may exist, yet our intention here is merely an illustrative one:

tarkib idhafi:⁴

mudīr madrasah:	headmaster
'ālat ikhtizāl:	stenograph
tabīb al-'ashi''ah:	radiologist
shibh jazīrah:	peninsula
faqr al-dam :	anemia
'ilm 'al'amsāl:	serology
faqd al'alam:	analgesia
tawāzun alquwā:	statics
iltihāb al-zā'idah:	appendicitis
miqyās al-harārah:	thermometer

of other languages as long as that does not affect the nature of the language. Thus in the following neologisms in Arabic:

kāshif al tayf:	spectroscope
kāshif al ihtizāz:	oscilloscope
rāsīm al isha'ā':	oscillograph

the semantic accuracy of the source expression is preserved without however departing the norms of the borrowing language.

⁴ In his article "Compound Words in Modern Standard Arabic," Emery (1988: 42) concluded that "the idhāfah structure is an ideal vehicle for compounds, not only because of the syntactic and semantic characteristics that it exhibits but also since it is a structure which is indigenous to the language". (For more details on idhafa see Hasan N.D).

'adīm al-shakl:	amorphous
daftar al-shīkāt:	cheque book
murāqabat al-matbū'āt:	censorship
inkhifādh al-dhaght:	hypotension
'usr al-tanaffus:	hyperpnea
tūl al-nazar:	hypermetropia
naqs al-numūw:	hypoplasia
ikhrāj al-mā':	dehydration
muta'addid al-lughāt:	multilingual
muta'addid al-adhlā':	polygram
miqyās al-ish'ā':	radiometer
mustaqīmāt al-ajnihah:	orthoptera
'asabiyyāt al-'ajnihah:	nervoptera

tarkīb waṣfī:

madrasah nahāriyah:	day school
ṭariq multawīyah:	detour
kātib masrahī:	dramatist
'ālam al-sinimā:	filmdom
madrasah 'ulyā:	high school
qusūr dātī:	inertia
sūrah mijhariyah:	photomicrograph
muṣawwir dhaw'ī:	photographer
idā'ah mar'īyah:	television
qadīfah mudhaddah:	antimissile
kitāb madrasī:	textbook

shawā'ib ma'daniyah: matrix

tarkib zarfī:

qabla altārikh: prehistory

tahta al-hamrā': infra-red

warā'a al-māddī: hyperphysical

fawqa handasī: hypergeometric

fawqa sawtī: supersonic

double nisbah:

sam'ī basarī: audio-visual

anfī bul'ūmī: nasopharyngeal

sharqī awsatī: middle eastern

amāmī jānibī: prefrontal

barrī mā'i: amphibious

kahrabā'i maghnātīsī: electromagnetic

kahrabā'i dhaw'ī: photoelectric

khalfī mihwārī: post axial

jasadī nafsī: psychosomatic

In many cases however the element of nisbah is dropped from the first component word. Such types of compounds which indicate the influence of modern European languages upon the structure of Arabic is gaining some currency in the Modern Standard Arabic, as we find many instances like:

duwal sharq awsaṭīyah

ahyā' barmā'īyah

4.2.1 THE TREATMENT OF MODERN TECHNO-SCIENTIFIC COMPOUND TERMS IN ARABIC LEXICOLOGY

4.2.1.1 THE TRANSLATION OF EUROPEAN COMPOUND ELEMENTS: (AL-SAWĀBIQ AND AL-LAWĀHIQ)

The preceding examples of modern Arabic "murakkab" words may illustrate some of the attempts made to translate into native equivalents various English and/or French technical and scientific (compound) terminology.

The main difficulty that persists in confronting modern Arab intellectuals and terminologists has been characterized as Hamzaoui (1975: 121) argues, by the presence of a number of Greek and Latin (prefixes et suffixes) Sawābiq and lawāhiq in those European compounds with few similar elements in Arabic. Ghazāl points out that this peculiarity of the donor language constitutes the chief problem in lexical creation in Modern Standard Arabic (Ghazāl 1976, c.f. Abderrahman 1985: 57). The issue of the formation of modern compounds has gained a wide interest in the various discussions and debates held by many Arab scholars like al-Tahtāwī (d 1873) al-Jazā'irī (d 1920), Sarrūf (d 1927), al-

Iskandarī (d 1938) and al-Maghribī (d 1956) among many others.

The main point of contention in their arguments however is focused on whether to borrow such compounds wholesale from the donor languages or to find some native equivalents. Special attention to the subject has been paid by Mustafā al-Shihābi (d 1970). In his book *al-Mustalahāt al-'ilmīyah fī al-qadīm wa al-hadīth*, he expressed the "need for understanding the meanings of these Greek sudūr and kawāsi' (prefixes and suffixes) in order to be able to translate modern European compound words into Arabic (al Shihābi 1955: 84-86).

For this reason al-Shihābi (Ibid.) presents some of these elements together with his suggested Arabic correspondents as given below:

Sudūr (prefixes)

bio: <u>hayāh</u>	biology: 'ilm al- <u>hayāh</u> - al-' <u>ahyā</u> '
geo: 'ardh	geology 'ilm al-ardh
hippo: faras	hippology: 'ilm alkhayl
hemo: dam	hemophtysic: ba <u>s</u> q al-dam
zoo: <u>hayawān</u>	zoology: 'ilm al- <u>hayawān</u>
iso: musāwī	isocete: mutasāwi al-sāqayn

anthropo: insān anthropology: 'ilm al-insān
hetero: mukhtalif heterogeneous mukhtalif al-'unsur
micro: saghīr microscope: mijhar
philo: muhibb philosopher: muhibb al-hikmah (faylasūf)
tele: bu'd telegraph: al-mubriqah. al-kātibah 'an bu'd
thermo: harārah thermometer: miqyās al-harārah
litho: hajar lithography: tibā'ah hajariyah

kawāsi' (suffixes):

algia: alam neuralgia: alam al-a'sāb
logy: 'ilm zoology: 'ilm al-hayawān
technic: fann zootechnics: fann al-hayawān
meter: miqyās thermometer: miqyās al-harārah
nomy: qānūn astronomy: qānūn al-nujūm
phage: 'ākil entomophage: 'ākil al-hasharāt
gen: muwallid pathogen: muwallid al-maradh

However, al-Shihābi remarks that in certain cases (as in chemistry) he prefers the borrowing of such lengthy compounds like "lodochloroxyquinoléine" (1955: 91).

To tackle the dilemma, the Arabic language academy in Cairo issued a number of resolutions regulating the translations of some of these elements. Below are given some of those suggestions put forward by the Academy:

- Words that end with scope take the pattern mif'āl
- Words that end with meter take the pattern mif'al
- Words that end with graph take the pattern mif'alāh
- The prefixes a and an are to be translated into :
lā, such as (Ablepharia: lā jafn) or (Anophthalmus:
lā muqlah)
- hyper: fart
e.g. hyper sensitiveness: fart al-hasāsīyah
- hypo: habt
- Gen: Muwallid e.g. antigen: muwallidat al-mudhād
- oid: shibh, e.g.
colloid: shibh gharā'ī
mucoid: shibh mukhātī

(See Majma' 1971: 70-79.)

In its actual practice of lexical creation the academy has exceeded those rules by adopting some thirty-seven other prefixes and thirty more suffixes according to Hamzaoui's (1975: 122) investigation.

Interest in furnishing Arabic with native tools for the translation of modern European compounds has prompted some Arab terminologists and translators to issue various lengthy list dealing with those aspects. In the following pages, we will present some of these efforts and contributions to the subject.

4.2.1.2 AL-KHATEEB'S LIST (1982)

This list which contains approximately 600 entries is as the author indicates an attempt to provide contemporary Arab scholars, translators, and anyone interested in certain scientific subjects with a variety of "sawābiq and lawāḥiq" elements of modern European compounds together with their suggested Arabic counterparts. The following selection of examples illustrates the point under discussion:

a...: lā - bidūn - ghayra - 'adīm - fī
 ab... : ba'īdan - mutlaq
 ...able: qābil li..
 acr...: taraf - nihāyah
 aesthe...: hissī
 agri...: haql - zar' - zirā'ī
 all ... + allo ...: mukhtalif
 an...: bidūn - la - ghayra
 anemo...: rih - hawā' - rihī
 ant... + antero...: amām - quddām - sābiq
 ...aphia: hiss - lams
 arch...: ra'isī - awwali - badā'ī
 audio...: sam' - sam'ī
 bacter...: jurthūmah - 'usayyah
 bi...: thunā'ī - zawjī

brom....: natin - muntin
 caino....: hadīth - 'asrī
 calor....: harārah - harārī
 cec....: a'mā - a'war
 cerebr....: mukh - mukhkhī
 chord....: hablī - khaytī
 chromato....: lawn - lawnī - sibghī
 ...cide: 'ibādah - qatl
 circum....: dā'ira - hawla - muhīt
 clinic....: sarīrī
 contra....: mudhādd- muqābil - muta'ākis
 corpor....: jasad - jasadī - jism
 cortic....: qishrī - lihā'ī
 crani....: jumjumī - qihf - qihfī
 cyst....: mathānah - mathānī - kīsī
 de....: naz' - khafdh - 'izālah
 dys....: 'usr - suw' - khalal
 ...ectomy: qat' - jabb
 fluvi....: nahrī
 eu....: sawīy - i'tiyādī - jayyid
 extra....: fawqīy - idhāfī - khārijīy
 febr....: hummā
 fore....: qabla - sābiq - amāmiy
 ...form: hay'ah - shakl - shabīh
 qangli....: 'uqdah - 'uqdī
 germ....: jurthūmah

glac....: jalīd - jalīdiy
 glomer....: kutlah - kitliy
 gen....: muwallid - yatawallad
 hetero....: mukhtalif - mughāyir
 hypso....: 'ulūw - irtifā'
 inter....: bayna - tabādul
 mega....: kabīr - dhakhm
 ment....: 'aql - dihn
 ...morph....: shakl - hay'ah
 heo....: jadīd - ḥadīth
 ob...+ oc....: dhidd - muqābil - maqlūb - mun'akis
 orb....: dā'irah - kurah
 ...ose: sukkar - sukkarī
 pachy....: thakhīn - kathīf
 pharyng....: ḥunjarah - bul'ūm
 .phobia....: khawf - rahbah - nufūr
 phren....: 'aql - hijāb
 puls....: daf' - nabdh
 retro....: khalfiy - raj'iy
 self....: dātiy - tilqā'i
 ...spher: kurah - kurawī
 tele....: ba'id - 'an bu'd
 ...therapy: 'ilājī - mudāwāh
 typhl....: a'war - a'mā

(For more examples, see (al-Khatīb 1982: 43-65.)

4.2.1.3 AL-SAWĀBIQ AND AL-LAWĀHIQ: SUGGESTIONS OF THE
ASSOCIATION OF ARAB PHYSICIANS (AL-LISĀN AL-'ARABI,
1985, 24: 199)

This contribution has been demonstrated through a list of nearly 260 items translated together with some medical compound terms into Arabic. The following are some illustrations:

a....: lā - bilā	atoxique (lā summiy)
acou....: sam'ī	acoumeter (miqyās al-sam')
acr(o)....: ṭaraf — nihāyah	acrodynia (waja' al-aṭrāf)
...alg(ia)....: 'alam	neuralgia (alam 'asabiyy)
an....: lā -bilā	anaerobic (lā hawā'īy)
anti....: mudhād	antispasmodic (mudhād al-tashannuj)
cysto....: mathāniy	cystoscopy (tanzīr al-mathānah)
...gram: sūrah-mukhattat	branchogram (sūrat al-qasabāt)
hyper....: fart	hyperacidity: (fart al-humūdhah)
...metric: qiyās	acidimetric (qiyās al-humūdhah)
...phag....: bal'	dysphagia ('usr al-bal')
...phobia: rahāb	nufūr photophobia (rahāb al- dhaw')
poly....: muta'addid	polymorph (muta'addid al-ashkāl)
pre....: amām - bad'—qabla - muqaddam	preclinical (qabī al-sarīriy)

4.2.2 VIEWS AND PROPOSALS

Interest in this subject may be reflected by the variety of articles which attempt to solve the problem of borrowing and translating those "sawābiq and lawāḥiq" elements of modern European techno-scientific compounds.

The terms sawābiq and lawāḥiq as well as their equivalents sudūr and kawāsi' are usually applied to refer to affixes (zawā'id, lawāṣiq) prefixes and suffixes. Yet, the above terms as used by Arab linguists and terminologists in this respect seem to carry a wide variety of applications.

Indeed, in his article "kayfiyat ta'rīb al-sawābiq wa al-lawāḥiq fī al-lughah al-'arabiyyah", al-Hāshimī states that some of the classical and neo-classical elements which modern Arab lexicologists treat as prefixes and suffixes are not prefixes and suffixes proper but words in the full sense of the term (al Hāshimī 1983: 63). To illustrate his position he (Ibid. 64-72) gives a list of modern French compound words built up on the basis of combining such neo-classical elements, as follow:

1. a. Latin words as: prefixes (sawābiq):

curvi: munḥanī	curviligne: munḥanī al-adhlā'
multi: kathīr	multicolore: kathīr al-alwān
semi: nisf	semicirculaire: nisf dā'irī

b. suffixes (lawāḥiq)

cide: aqtul	insecticide: mubīd al-ḥasharāt
cole: ahruth	agricole: zirā'ī
fuge: afirr	calorifuge: khāfidh al-ḥarārah
vore: aftaris	herbivore: 'ākil al-'ushb

2.

a. Greek words as: prefixes (sawābiq)

aero: hawā'	aerodrome: minā' jawwī
anthropo: insān	anthropophage: 'ākil luhūm al-bashar
archeo: qadīm	archeologie: 'ilm al-athariyāt
biblio: kitāb	bibliographie: thabt al-marāji'
bio: hayāh	biographie: sirat hayāh
caco: qabīḥ	cacophonie: tanāfur al-aswāt
demo: sha'b	democratic: dīmuqrāṭīyah
chrono: waqt	chronometre: miqyās al-waqt

b. lawāḥiq (suffixes)

algie: 'alam	neuralgia : 'alam 'asabī
--------------	--------------------------

chrome; lawn	polychrome: muta'addid al-alwān
cycle: dā'irah	tricycle: dā'irah thulāthiyah
metre: miqyās	curvimetre: miqyās al-munḥanayāt
ptera: janāh	hemiptera: nisfiyāt al-ajnihah
phobie: karīh	xenophobie: kurh al-ajānib.

In evaluating the scale of the problem of treating such elements in Arabic, 'Abderrahmān (1985) emphasizes a distinction between lawāṣiq (affixes) and those "murakkabāt jidriyah" (root-compounds) which, he defines as words that consist of two roots carrying specific meanings (1985: 60), like geo-logy, bio-logy, etc.

Accordingly, 'Abderrahmān identifies a great deal of these sawābiq and lawāḥiq given by al-Khateeb (1982) and the Association of Arab physicians (*al-Lisān al-'Arabi* 1985) as actual root elements for which Arabic with its (9273) roots is capable of generating native equivalents ('Abderrahmān 1985: 64).


Despite such "theoretical" productivity, the main question in this respect however seems to consist in the lack of a specific procedure adopted by the various institutions and individuals engaged in the process of Arabic lexical expansion in general and the treatment of modern European compound words in particular. As may

have been noticed in the preceding lists, there are some cases where a single foreign element is translated into multiple native expressions. Such practices, together with the use of different linguistic means of lexical formation, may constitute a primary factor behind the imprecision associated with the existence of variable Arabic terms signifying a single object or idea.

To illustrate the phenomenon, we shall refer to a study by Hamzaoui (1975), in which he attempts to investigate the different methods used to express some scientific compound elements in the two dictionaries of chemistry and physics issued by the Coordination Bureau of Arabization in Rabat.

The following are some of those observations made by Hamzaoui in this respect:

(1) Some of the scientific compounds in the dictionaries have been translated in variable ways such as:

- deformation: 'ayb shaklīy (chem). tashwīh (phy)
- dehydration: naz' al-mā' (chem) tajfīf al-mā' (phy)
- heterogen: ghayr mutajānis  (chem.)
mutaghāyir
shibh mustaqirr (phy)

(2) The use of a single (sadr) prefix to denote many European (prefixes and suffixes) as in the following:

- lā: a - an - anti - apo - asy - non - un.
- dāt: bi - iso - mono - uni.
- 'ālīy: auto - re.⁵

To achieve "some general rules and criteria" for the process of translating modern terminology Hamzaoui (Ibid.: 128) stresses the necessity of investigating both Arabic and European sudūr and lawāḥiq in order to establish an agreed method of dealing with the issue (Ibid.: 128).⁶

4.2.3 SUMMARY

As may have been concluded from the preceding remarks and examples, the phenomenon of tarkīb can be established as a process of lexical development whereby a variety of European techno-scientific compound words

⁵ For many similar examples, see Hamzaoui 1975, 12: 121-138.

⁶ See also al Mughnim's (1985, 24: 95-102). method for the treatment of those prefixes and suffixes "ṭarīqat 'amal li mu'ālat mas'alat al sawābiq wal lawāḥiq (Ibid.: 98).

are rendered into native Arabic "murakkab" lexical units.

A close look at the two given categories of combined expressions many reveal the fact that while a compound word in the majority of the European examples can be recognized as a single word composed of more than one root and/or affixes, the equivalent Arabic (murakkab) is "generally speaking" a linguistic unit usually built up on a framework of two separate words combined on the basis of some semantic and grammatical considerations.

Indeed, Arabic shows a case whereby the free word is the most frequent lexical unit. The translation of such morphologically complex and long compound words in the donor languages that contains numerous morphemes would usually be represented by combination of free words in the borrowing language.

The formation of an Arabic murakkab may in some cases appear as a direct rendition of the source compound, as in the following examples:

sharq awsaṭī: middle eastern

sam'ī baṣarī: audio-visual

lā qānūnī: illegal

However, the tendency towards the coinage of such native technical and scientific terms where a single word is composed of various elements abstracted from other murakkab (compound) words has been a major factor behind many calls for the application of the method of naht. Al-Hasrī (1975) summarizes this tendency as he expresses the need to make use of tarkīb in generating new (murakkab) expressions and, adopt naht to merge those murakkab units into single words. He (1975: 12: 41) states:

"لَا شَكَّ فِي أَنَّ الاسْتِعَاقَ وَهَذِهِ لِبَنِي
لِتَوْلِيدِ أَلْسِنَاتِ أَلْيِ حَيَاجٍ إِلَى التَّغْلِيظِ
الْبَشَرِيِّ لِأَنَّ عَمَلَهُ مَقْصُورٌ عَلَى أَوْزَانِ
وَقَوَالِبَ مُعَيَّنَةٍ ، وَهَذِهِ الْأَوْزَانُ وَالْقَوَالِبُ
مِمَّا كَانَتْ كَثِيرَةً وَوُلُودُهُ لَا تَسْطِيعُ أَنْ تَتَوَعَّبَ
جَمِيعَ إِمْعَانِي إِعْقَلِيَّةٍ . فَلَدِبَّ مِنْهُ الْإِسْتِعَاقُ بِالتَّرَكِيبِ
وَالْإِقْدَامِ عَلَى تَرْكِيبِ كَلِمَتِهِ أَوْ أَكْثَرَ عَلَى سُيُ
تَرَالِيبٍ مُزَجَّجَةٍ وَوَصْفِيَّةٍ وَاصْطِفِيَّةٍ وَحَقِّ
عَلَى حَقِيقَةٍ جَمَلٍ فَعَلِيَّةٍ
فَالْتَحَتِ يَتَنَاقُلُ الْبَدَنُ مِنْ هَذِهِ التَّرَالِيبِ
فَلْيَصْغُرْ أَوْ كَانَتْهَا وَيَجْعَلُهَا كَلِمَةً وَاحِدَةً تَتَصَرَّفُ
مِثْلَ أَلْسِنَاتِ الْمَعْرُودِ ، ثُمَّ يَخْتَصِرُهَا وَيَخْتَزِلُهَا
وَيَجْعَلُهَا سَبِيحَةً بِالْمَعْرُودَاتِ ."

4.3 NAHT AS A METHOD OF LEXICAL DEVELOPMENT

4.3.1 INTRODUCTION

The present section is an attempt to shed some light on certain questions related to the application of the method of naht in rendering the variety of technical and scientific Arabic "murakkab" terminology into single lexical items.

It is worthwhile however to start with a view on the phenomenon as dealt with by some early Arab philologists.

4.3.2 THE PHENOMENON OF NAHT IN CLASSICAL ARABIC MATERIAL

The frequently cited examples of naht in classical Arabic are notably few in number and usually estimated to vary from forty (see 'Abderrahmān 1982-19: 72) to sixty (al-Sālih 1986: 244) "manḥūt" words.

This category of classical formations has been classified by some modern Arab scholars (see: Stetkevych 1970: 50, Shaheen 1980:103) by reference to certain grammatical considerations into four types of naht:

1. al-naht al-fi'li (verbal naht)
2. al-naht al-wasfi (adjectival naht)

3. al-naht al-ismī (nominal naht)

4. al-naht al-nisbī (adjectival naht of reference)

The verbal (fi'li) type refers to the formation of a "usually quadriliteral" verb from a "commonly uttered" phrase or sentence as in the examples given below:

ja'fala: to say = ju'iltu fidāka

mashkana: to say = māshā'a allāhu kān

faḍlaka: to say = faḍālika kaḍā wa kaḍā

fanqala: to say = fa in qāla kaḍā qulnā kaḍā

dam'aza: to say = dāma 'izzuk

kabta'a: to say = kabata allāhu 'adūwwak

waylama: to say = wayla ummih

The above type of naht began to appear with the advent of Islam. However, apart from extremely few colloquial examples,⁷ one can say that new instances of similarly coined words are hardly produced nowadays.

The type of adjectival naht (wasfī) as the term indicates, refers to the formation of an adjective "ṣifah" out of two words which would complement each

⁷ One can detect few similar examples of fi'li type of naht in the local dialect of Najdī Arabic (Saudi Arabia) such as:
yhallil: to say = lā ilāha illā allāh
yṭahaysab: to say = ḥasbunā allāh wa ni'ma al wakīl.

other, providing the desired connotation or emphasis as in: sildim (strong hoofed) which, is believed to be created from sald (hard) and sadm (collision), and sahsaliq (vehement of voice) as a result of the combination of elements from sahala (to neigh) and salaqa (to scream).

In the nominal category of naht "ismi", a noun is formed from two words of related nature as in the case of julmūd (a large rock) derived from jaluda (become strong) and jamada (to be solid) (See Stetkevych: Ibid.).

The last type of classical (nisbī) naht includes a variety of old adjectives of reference "nisbah" which were formed from bicomponential lexical units "murakkab idhāfī" such as:

- 'abshamī: belongs to: 'abd shams
- 'abqasī: belongs to: 'abd al-qays
- 'abdari: belongs to: 'abd al-dār
- 'abdali: belongs to: 'abd al-lāt

In some other cases of naht nisbī a word is coined from elements that belong to different "unrelated" names of places, schools and so forth.

Thus, tabarkhazī is somebody who belongs to both cities of tabaristān and khawārizm, and shafa'tanī is a follower of the two Islamic scholars abū Hanīfah and al-Shāfi'i (See Shaheen 1980: 103).

The above types of formations have been cited by several Arab scholars as examples of the phenomenon of naht as practiced by the native early Arab speakers. Yet, among the classical Arab philologists ibn Fāris (d 395 A.H.) stands as the main enthusiastic proponent of the process. His contribution in this respect was not merely consisted in referring to these formations but, also in his attempt to establish his theory that most Arabic words with more than a triliteral root are products of the method of naht as he states:

"و هذا من ذهبنا في أن
الأشياء الزائدة على ثلاث
أحرف فأكثرها مخوتة"

(See ibn Fāris 1910:227)

To establish that view ibn Fāris followed an etymological path of trying to detect the origins of these (manhūt) words. In addition to the usually accepted (manhūt) words, he regarded as a type of blend a great deal of other words which according to him, are

accountable for in terms of ziyādah (affixation) whereby a word with a trilateral root may have added to it as a prefix, infix or suffix, one or more sounds which serve to add a certain semantic value (al Ṣāliḥ 1986: 248) as follow:

baḏama: laḏama + b

barkala: rakala + b

ba'thara: bathara + '

balsama: balasa + m

barqa'a: raqa'a + b

barzakh: barza + kh

ra'shana: ra'asha + n

Such sounds, as al-Ṣāliḥ (Ibid. 247) argues, are remnants of some ancient words.⁸ It is possible to argue, however, that the case is open to various probabilities owing to the lack of a precise analysis of the process under consideration. Indeed, the case may reflect itself in the two accounts given by ibn Fāris himself for the word sildim. In one respect it is given as an example of the affixation of the sound (m) to the

⁸ As a proponent of Ibn Faris's view al Ṣāliḥ studied the former's book *Al maqāyīs* which he claims contains more than three hundred words of similar type of "naḥt" formation. See al Ṣāliḥ (Ibid.: 258).

original form sald (ibn Fāris 1910: 70) and, in another as a derivative from sadm and sald (Ibid.: 227).

In a similar view one may refer to the two descriptions of the word ba'thara which was regarded as a combination of bathara and the infix (') according to ibn fāris's analysis (al Ṣāliḥ 1986: 251), and as a "naḥt" blend formed from ba'atha and athāra in al-Zamakhsharī's view (See Shaheen 1980: 108).

In other instances, ibn Fāris's enthusiasm for establishing naḥt as a major word-formational procedure led him to describe a variety of (Arabicized) foreign words on such a basis. One such case is the word "jardaba" in: jardaba al-rajulu ta'āmah, (to eat with one hand and prevent others from reaching his food by covering it with the other). That word which is originally Persian "kardabān" has been considered by ibn Fāris to be formed from Jadab and Jirāb (See al-Ṣāliḥ 1986: 270, and Ali 1987: 62).

Similarly, the loan word Farazdaq (lumps of dough) (Persian: barazda) was, according to ibn Fāris's theory, created from faraza (to divide) and daqqa (to grind) (Ibid.).

Such a variety of examples as given by ibn Fāris in Jawād's view (1955: 86), are largely based on unrealistic guesses and far fetched interpretations.

Yet, whether the process of naht was a major procedure of lexical formation in classical Arabic, as ibn Fāris argues, or merely a practice restricted to the abbreviation of a few "murakab" words or phrases, the fact remains that many modern Arab scholars have been engaged in wide discussions and debates over the subject of naht, and the possibility of applying it as a method of lexical formation, as will be illustrated in the following pages.

4.3.3 THE APPLICATION OF NAHT AS A METHOD OF LEXICAL FORMATION (VIEWS OF MODERN ARAB SCHOLARS)

The question of applying the method of naht in the process of the formation of modern technical and scientific Arabic terminology has been one of the most controversial issues with which the modern Arab scholars have had to contend.

In response to the great influence of modern development, some terminologists emphasize the need for naht as one of the possible means of rendering the huge

amounts of foreign compound words otherwise adopted as "murakkab" and long constructions.

The early debates over the issue as El Khafaifi (1985: 124) notes, have been brought forward when the member of the Cairo Academy 'Ali al-Jārim (d 1949) rendered the English compound word "electromagnet" into the Arabic "kahraṭīsi" as a new word which he created from the suggested "murakkab" kahrabā'ī maghnāṭīsi. "

As in other debates over aspects of lexical development, modern Arab lexicologists have been divided into two main groups.

There are on the one hand those scholars like al-Maghribī (d 1956), Jiris (d 1959) Maḡhar (d 1962) and al-Ḥasrī (d 1968) who fully supported such application and proceeded in the attempt to put the method into practice. On the other hand, some scholars simply reject the idea on the ground that it is not a reliable, normative and generalized principle. They consider the process as an accidental aspect of the language (See Jawād 1955).

Among the former group stands al-Maghribī one of the distinguished supporters of the method.

He follows the idea that Arabic words can be traced back to pairs of trilateral out of which they were composed by what he calls "al ishtiqaq al-naḥtī". (al Maghribī 1947: 15 c.f. El-Mouloudi 1986: 207). To illustrate such views he (Ibid.) gives the following examples:⁹

harwala (to walk fast): (haraba) + (wallā)
dahraja: (to roll): (dahara) + jarā
bahthara: (to scatter): (bahatha) + (athāra)
kharmasha: (to rend): (kharama) + (sharama)¹⁰

Al Kawākibī (1964) has been one of those proponents of naḥt who did not hesitate to apply the method in rendering various scientific terms like:

⁹ In a similar case, T. Hassān (1974: 153) argues that Arabic affixes "hurūf al ziyādah" are not limited to the classical "sa'altumūnīhā" s, ' , l, t, m, w, n, y , h, a. He believes that every letter in Arabic is capable of adding a semantic value. Though, without referring to the source of the letter, he gave the following examples of affixation: dahraja: (to roll), (daraja + h). zaghrada: (to utter cries as a manifestation of joy by some Arab women), (gharrada + z). shaqlaba: (to turn something upside down). (qalaba + sh) 'arbada: (to be quarrelsome). ('arada + b).

¹⁰ See also al Hasri (1975: 43).

- balaghaza (to degas): (bilā + ghāz)
 tashākub (homology): (tashābuh + tarākub)
 māfawsajī (ultraviolet): (mā + fawqa + al-banafsajī)
 kahrajābī (electropositive): (kahrabā' + 'ijābī)
 kahrasilbī (electronegative): (kahrabā' + silbī)

In a similar way, the enthusiastic supporter of the means Mārūn Ghūn proposed a number of instances where the present procedure is applied (See Ali 1987: 69).
 Examples:

- 'arbayad (quadrumane) ('arba' + yad)
 'arbarijl (quadrupede): ('arba' + rijl)
 dūthad (mammifere): (dū + thady)

Ramsīs Jirjīs (d 1959) was another scholar who put his views on naht into practice.

In his article "al naht" which he presented to the Cairo Academy, he proposed the employment of parts of Arabic words as combining forms to create new medical terms such as:

waj'adah: gastralgia	(waja' + ma'idah)
ṣalkalah: nephrectomy	('isti'sāl + kilyah)
fatkalah: nephrostomy	(fath + kilyah)
qat'jarah: laryngotomy	(qat' + hanjarah)
fatmanah: cystostomy	(fath + mathānah)
ṣalwazah: tonsillectomy	('isti'sāl + lawzah)

(Jirjis MMAA, Vol. 13 c.f. El-Khafaifi 1985: 132)

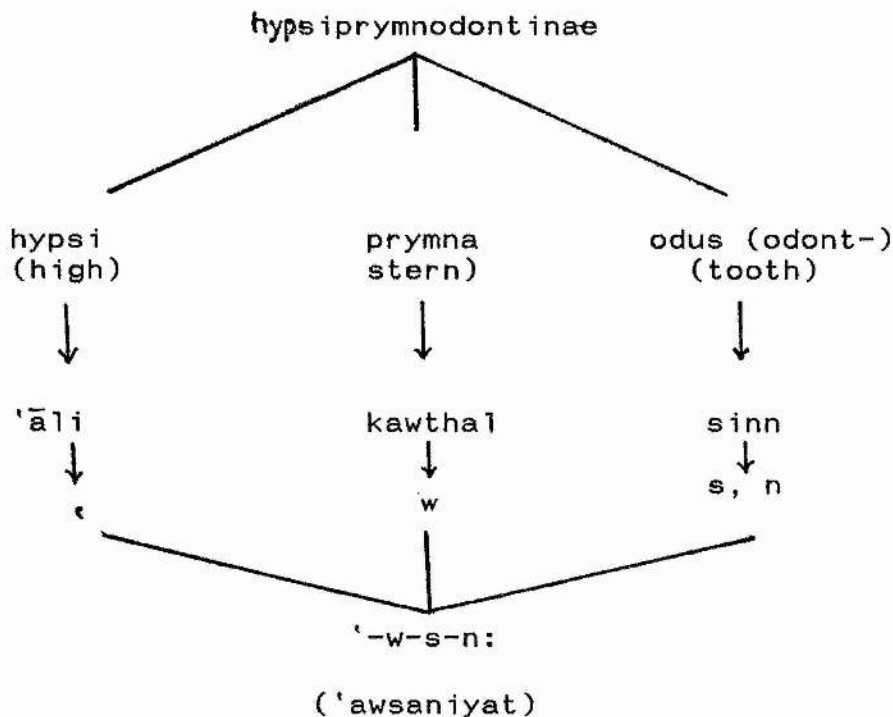
There are, however, a number of similar scientific terms coined by the various committees of the Cairo Academy on the basis of a decree issued in 1953 authorizing such process in cases of scientific needs (See Majma' 1971: 9):

..جوز أُلِّفَتْ عِنْدَنا تَلْجِيْغٌ
إِلَيْهِ الصَّرُورَةُ الْعِلْمِيَّةُ

The following are a few examples of that category:

ḥalma'ah	: to hydrolyze	(ḥallala + mā')
shibzāl	: albuminoid	(shibh + zulāl)
fahmā'iyāt	: carbohydrates	(fahm + mā')
nazjanah	: dehydrogenation	(naz' + uksijīn)

In a more radical way "of abbreviation" Ismā'īl Mazhar rendered the Greek compound word "hypsiprymnodontinae" into the Arabic "al 'awsaniyāt". The latter word however is being a combination of elements taken from a number of Arabic words which otherwise constitute a multi lexical unit equivalent in signification to the Greek word. Ali (1987: 70) illustrates the process as follows:



In his article on "scientific terminology" "hawla al-'istilāhāt al-'ilmiyah", Sāti' al-Hasri (1975)

favoured naht¹¹ and remarks that "It is not possible to spread scientific knowledge through long constructions, if we however do not accept naht, we shall be forced to use those foreign terms, by which the homogeneity of the language will be in a great danger (Ibid.: 47). In his attempt to illustrate naht as a method which can help modern Arab terminologists to coin such economical terms and, avoid long constructions, al-Hasrī (Ibid.: 45-46) introduces some of the "manhūt" terms coined by him:

- 'amarkazī : (al qūwwah al-tāridah 'an al-markaz)
- qabmantīqī (qabla + al-mantīq)
- qabfahmī: (qabla + fahmī)
- khām~~adrasī~~ : (khārij + madrasī)
- fawsawī: (fawqa + sawīy)
- al huwaymin: (al-huwayn + al-manawī)
- haynūmah : (hayawān + jurthūmah)
- 'afnabāt : ('afan + nabāt)
- sarmanah : (sayr + manām)
- tafarkazī : (tifl + markazī)

¹¹ Al-Hasrī, however, used the term naht to refer to a variety of combination such as the adding to one another of two words with their component elements preserved intact. See al-Hasrī, (Ibid.: 44).

Al-Hasrī however acknowledges that such words may appear to sound strange or unattractive but, he (Ibid.: 46) concluded, "they are not odd than other "manhūt" words coined long ago which were recorded in dictionaries and gained a common acceptance among native speakers.

Thus, al-Hasrī appeals to modern scholars to consider the issue with an open mind and give it their full attention.

On the other side, however, other scholars have been widely expressing their unfavorable attitude towards such application of the phenomenon of naht in the process of Arabic lexical development.

One of the eminent representatives of the conservative views in the early debates over the issue at the Cairo Academy was Ahmad al-Iskandarī (1935), the main antagonist in the battle against the process. He insisted that "as the language of derivation Arabic is very ill suited to the use of naht." He argues that, since none of the early Arab philologists sanctioned the phenomenon as a legitimate basis for analogical derivation, this process should be completely ignored in

the coining of free words for Modern Standard Arabic (See El-Khafaifi 1985: 125-26).

However, under the increasing influence of some members the Cairo Academy discussed the earlier debates, including a proposal given by its linguist member Ibrāhīm Anīs, and issued in 1965 the following resolution concerning the application of *naht* in the coinage of new native terms:

"Al-*naht* is a linguistic phenomenon needed by the language both in the past and at present. In this process it is not necessary to use letters from all the merged words nor to preserve their manner of articulation. The occurrence of this type of formation in the language, has been well enough documented to authorize the legitimacy of its analogical application. It is therefore permissible to coin (if needed) a noun or a verb from two words, provided that the original rather than affixes *zawā'id* sounds are used. If the *manhūt* word is a noun it must be formed on an Arabic pattern (*wazn*). The formation of an adjective from that noun is through the adding of the nisbah element *-iy-*. If the *manhūt* is a verb it must be of the pattern *fa'lala* unless necessity requires otherwise according to the classical *manhūt* vocabulary"

(c.f. Stetkevych N.D.: 122)

Similarly, Father Anāstās al-Karmalī rejected a plan by the early members of the Iraqi Academy in 1926 to employ the method of *naht*, if needed, for the creation of modern vocabulary. He states: "I do not see

any use of naḥt. Arab scholars in the Abbasid era did not create a single word through this procedure. Moreover the Arabs used the method only to abbreviate such frequently occurring expressions" (See Jawād 1955: 85). By way of commenting on the above views Jawād (Ibid.: 86) expressed his agreement with al-Karmalī. He went on to express his unfavorable position towards the use of naḥt in the rendition of the word "psychosomatic" into al-nafsajī or al-nafsjismī as an abbreviation of "al ṭibb al-nafsī al-jismī. Such practice", he continued "may create a gap between the term and its original forms which leads to cases of confusion and ambiguity. He therefore emphasizes that he "rarely relied on naḥt in lexical development on the basis that its instances are extremely few in the language, and it can affect the nature of Arabic vocabulary (Jawād, Ibid.).

In a similar yet more detailed view, Mustafā al-Shihābī (1959: 548) emphasizes two aspects of the application of naḥt in the process of lexical neologisation. This application according to him must be subjected to the criteria of necessity and good Arabic taste "al dawq al-'Arabī al-salīm".

While he resorts in extremely few cases to the method, al-Shihābī believes that the rendition of a

foreign term into two Arabic words (murakkab) has on a variety of occasions, been more appropriate than the creation of an ambiguous and strange "manhūt" word (al Shihābī 1955: 15).

He criticizes those scholars who regard naht as one of the major potentials for the development of Arabic vocabulary, for neglecting the language's rules and character by applying such means to produce a variety of odd, superfluous "manhūt" terms (1959: 548-51).

The following are some examples cited by al-Shihābī in referring to such un-needed naht together with equivalent murakkab words of his own suggestion:

- ghimjanāhīyāt (coleopteres): (ghimd + janāh):
-ghimdīyāt al-ajnihah-
- ghishjanāhīyāt (hymenopteres): (ghishā' + janāh):
-ghishā'īyāt al-ajnihah-
- musjanāhīyāt (orthopteres): (mustaqīm + janah):
-mustaqīmāt al-ajnihah-
- 'asjanāhīyāt (nevropteres): ('asab + janāh):
-'asabīyāt al-ajnihah-
- shawjanīyāt (acantopterygiens): (shawk + janāh):
-shā'ikāt al-za'ānif-
- dawfamīyāt (cyclostomes): (dā'irah + fam):

- halqīyāt al-afwāh-
la'nafīyāt (malacopterigiens): (layyīn + zi'nifah):
-layyināt al-za'ānif-
- baṭjalīyāt (gasteropodes): (baṭn + rijl):
-ma'idīyāt al-arjul-
- jidrijlīyāt (rhizopodes): (jidr + rijl):
-jidrīyāt al-arjul-

Al-Shihābī comments on the above example of naht and argues that while the French compounds are composed of some Greek elements understood by a French student who usually gets some basic knowledge of those prefixes and suffixes, their equivalent "manhūt" renditions exhibit such cases where further analysis and description is needed by the Arab student in order to recognize their significances (al Shihābī 1959: 550)

In other words, the coinage "musjanāhīyāt" for example consists of the element (mus) which is an abbreviated form of the word (mustaqīm) and the fully represented (janāh). That coinage as Ali (1987: 76) describes it cannot be said to be fully intelligible to the speaker who has no prior acquaintance with the topic, and while it would be easy for him to isolate and realize what is meant by (janāh) he may relate the other element (mus) to other adjectives like (mustatīl),

(mustaqwis), etc. as those may be used as qualifiers with noun "janāh".

A similar approach towards the application of naht in Modern Standard Arabic is taken by al-Sāmarrā'ī who emphasizes the full understanding of the Arabic morphological system as a primary condition for any attempt to apply the method. As such application has largely been associated with scientific terminology, al-Sāmarrā'ī attacks Kamāl Yousef al-Hājj for his literary coinage "al mutabarjiū n"; (people who live in ivory ('ājī) towers (abrāj) (See al-Sāmarrā'ī 1983: 155).

4.3.4 GENERAL NOTES AND CONCLUSIONS

As previously indicated, a notable degree of confusion between the concept of tarkīb, compounding and naht exists in modern discussions of the subject. However, it is clear from the preceding discussion that tarkīb has been used here in its capacity as a process of forming new words by combining together two or more attested words in the language whether these words belong to the established classical core of the language, or its modern lexical reservoir.

It has been noted in the last section that some modern Arab scholars attempt to make use of the old

phenomenon of *naḥt* in creating a short single word out of a given *murakkab* or a multi lexical unit by abstracting certain elements of that unit. It may have been noticed, however, that such abstraction does not usually follow a systematic pattern. One, however, must point to the fact that the more elements are abstracted from a *murakkab* the more the new "*manḥūt*" word becomes ambiguous. If we may use the lexical (general) meaning of the word *naḥt* in this respect we can say that the more a "*murakkab*" is subjected to the process of *naḥt* (chiselling out) the more it becomes indefinite and loses features of its original form and meaning.

The various examples of modern Arabic terms coined through such procedure demonstrate such a gap between the new word and its underlying components. To illustrate the point we will present in the following some scientific blends created by al-Kawākibī (1964: MAAA 39: 675-86) which may appear as totally new combinations of elements by way of (*irtijāl*) extempore lexical creation:

balmahah (*bilā + mā'*) : dehydration

khasfajah (*khasf + al-hidrūjīn*): dehydrogenation

khathrabah (*takhthīr + kahrabī*) electro-coagulation

muqayhil (*muqī' + mushil*): emeto-cathartique

khazladah (ikhtizāl + aksadah): oxydo-reduction

muḥawji'ah (muḥawwilah + murji'ah):

transformateur-reducteur.

Some extreme cases of abbreviation as seen in Mazhar's (See 4.3.3) coinage 'awsaniyāt ('ālī + kawthal + sinn) may possibly be considered as acronyms¹² rather than types of naht or blending.

It can therefore be concluded that while "tarkīb" has been a process of lexical enhancement and reform, the method of naht can be applied as a second-order procedure of adapting native vocabulary to certain forms of lexical-formation.

¹² The label acronym is usually referred to as a word coined by taking the initial letters of the words in a title or phrase and using them as a new word (Bauer 1983: 237). The above example of ('awsaniyāt) however does not follow such arrangement as the second letter (w) is used instead of the initial (k) in the second word (kawthal). Among the various common acronyms are:
 Radar: (Radio Detection and Ranging)
 Sonar: (Sound Navigation and Ranging)
 Salt: (Strategic Arms Limitation Treaty).

CHAPTER FIVE

TOWARDS A STANDARDIZED TERMINOLOGY IN ARABIC

5.1 INTRODUCTION

Since the beginning of the Arabic movement of linguistic reform in the nineteenth century when contact with western cultures revealed the fact that Arabic was manifestly unable to cope with the needs of the modern world, many Arab scholars, impatient for lexical growth, have (as seen in the preceding chapters) been focusing their concern on means of furnishing the language with new expressions in the various branches of modern knowledge.¹

However, the fact that many Arab states are increasingly being interested in the process of Arabization (i.e. introducing Arabic into the various spheres of modern communication)² has raised the level

¹ For a recent list of such lexical growth, see: al-Thubaiti 1987.

² The fact that Arabic has become an official language of many international organizations, has led to a growing interest among many Arabic institutions in the issue of lexical development and standardization. It is worthwhile mentioning that the Arabic Telecommunications Union has recently started a Telecommunications Terms and Definitions Project which aims at establishing Arabic equivalents for the International Telecommunications Union's vocabulary.

of concern over the nature of such lexical growth, and the need for a standardized terminology in Arabic, which would serve as a sufficient tool in that process.

The present chapter will shed some light on such terminological activities in the Arab world which aim at standardizing technique of enabling Modern Arabic to conform to a level of quality where it can actually fulfil the needs of modern life.

It seems worthwhile to start with a brief resumé of the subject of technical terminology, as a modern phenomenon.

5.2 TERMINOLOGY FORMATION AS A MODERN PHENOMENON:

GENERAL ACTIVITIES:

Owing to the rapid development in modern science and technology, a large number of new concepts have been created. The fact that such concepts in any individual field may reach millions, while the number of roots in a particular language amounts to some thousands only, has made it increasingly difficult to assign unambiguous terms to new concepts. This, according to Felber, could lead to severe communication problems in the near

Arabic would then be the fourth official language of that Union (see InfoTerm 1984-31: 1).

future, unless scientific methods are applied to terminology creation (1979-1: 21).

Indeed, progress in all fields of human activity and the dissemination of modern knowledge and technology depends to a large extent on the existence of correctly constructed terms to service the scientists and technicians also will play a crucial role in the modern world.

Consequently, many institutions as well as individuals involved in communicating specific subject matters are becoming interested in terminological activities which besides theoretical research and investigation may include cooperating in the field of term-formation. That will necessitate the application of agreed and uniform principles of lexical creation and the use of terminological documentation systems such as terminological data banks.

Interest in terminological research began during the last century when some European biologists and chemists started to internationalise rules for the coinage of new terms.

The first approaches to scientific investigation of terminology can be traced back to Professor E. Wüster generally considered having been the founder of Vienna School of Terminology and of the General Theory of Terminology. In 1931, he published an important book, *Die internationale sprachnormung in der Technik, besonder in der Elecktrotechnik*,³ which helped promote the standardization of terminological principles and which is still held in high esteem as a basic work of reference (Felber: Ibid.).

Wüster (d 1977) considered the general theory of terminology as a distinct branch of science, an interdisciplinary field combining the skills of linguistics, logic, ontology, and information science (Felber: Ibid.).

The science of terminology, however, is usually defined as an Applied Linguistics discipline which deals with the systematic association of concepts and terms within any discipline. The study of the formation of terms and how they represent knowledge makes this science a branch of lexicology and semasiology (al Kassimi 1980-18: 8).

³ (*International Standardization of Language in Engineering Particularly Electrical Engineering*).

The rapid tremendous growth of the international language of science has been a major factor behind the increasing interest shown by many worldwide institutions active in this field⁴ of research. On a practical level, there are many efforts aimed at establishing and disseminating standardized guidelines for the handling and presentation of terminological data. Those guidelines are usually considered necessary for both the international exchange of terminology and the harmonization of terminological activities. On a worldwide level such guidelines are being elaborated by the International Organization for Standardization (ISO) which is located in Geneva and which has since 1951 been very active in publishing a variety of documents on aspects of the treatment of technical terms.

The Technical Committee (ISO TC 37) which works within the frame of the organisation and of which the Austrian Standard Institute (ON)⁵ forms the secretariat has elaborated many guidelines for terminological creation:

ISO/R 1087-1969: Vocabulary of terminology.

⁴ See: Krommer Benz, M. 1976: *World Guide to Terminological Activities* (Munchen: K.G. Sauer).

⁵ "Osterreichisches Normungsintitut".

ISO/R	919-1969:	Guide for the Preparation of Classified Vocabularies.
ISO/R	704-1968:	Naming Principles.
ISO/R	860-1968:	International Unification of Concepts and Terms
ISO/R	1149-1969:	Layout of Multilingual Classified Vocabularies.
ISO/R	639-1969:	Symbols for Languages, Countries and Authorities.
ISO/R	1961-1973:	Lexicographical Symbols Particularly for Use in Classified Vocabularies.

In 1971 and within the framework of Unisist⁶ the International Centre for Terminology (INFOTERM) was established on the basis of a contract between the UNESCO and the above Austrian Standards Institute (ON) with a view to worldwide coordination of terminological activities. The centre aims at:

- encouraging research on methods of term creation and the general theory of terminology.

⁶ A UNESCO intergovernmental programme to encourage and guide voluntary cooperation in the exchange of scientific and Technical Information at national, regional, and international levels.

- promoting international cooperation in the field and providing channels for the exchange of information on the subject.
- working for the establishment of an international network for the coordination of terminological activities.
- studying means of information exchange between terminological data banks.

In order to fulfil those objectives Infoterm carries out the following activities (see Table 5.1):

- Collecting and analyzing terminological publications from all over the world.
- Collecting standardized vocabulary and keeping this collection up to-date as a basis for training, research and for developing terminology in languages where they do not yet exist.
- disseminating information on:
 - terminological publications already in existence or in preparation.
 - terminological libraries and their holdings.
 - terminological training.
 - terminological data banks.
 - symposia on terminology.
 - terminological knowledge.

- preparing and organizing of conferences or meetings designed either to inform on new developments or to serve as a basis for discussions and decisions of expert panel meetings and for later action.⁷

In the first Infoterm Symposium on International Cooperation in Terminology which was held in Vienna in 1975, many participants recommended the creation of a universal network for the coordination of terminological work. In compliance with that recommendation a study of the project was carried out by InfoTerm.

As the proposals of that study were accepted by Infoterm's advisory board at a meeting held in 1977 under the auspices of UNESCO, an invitation to join an international network for terminology was sent out to a number of institutions throughout the world many of which have declared their willingness to collaborate in some of the proposed projects (InfoTerm: TermNet 1984-3: 1).

The above project (TermNet) is a network of cooperating scientific, technical and professional

⁷ For a detailed account of InfoTerm's activities, see: Felber, H., *InfoTerm and TermNet, Plans, Activities, Achievements*. International Classification, 7, 1980, No.3.

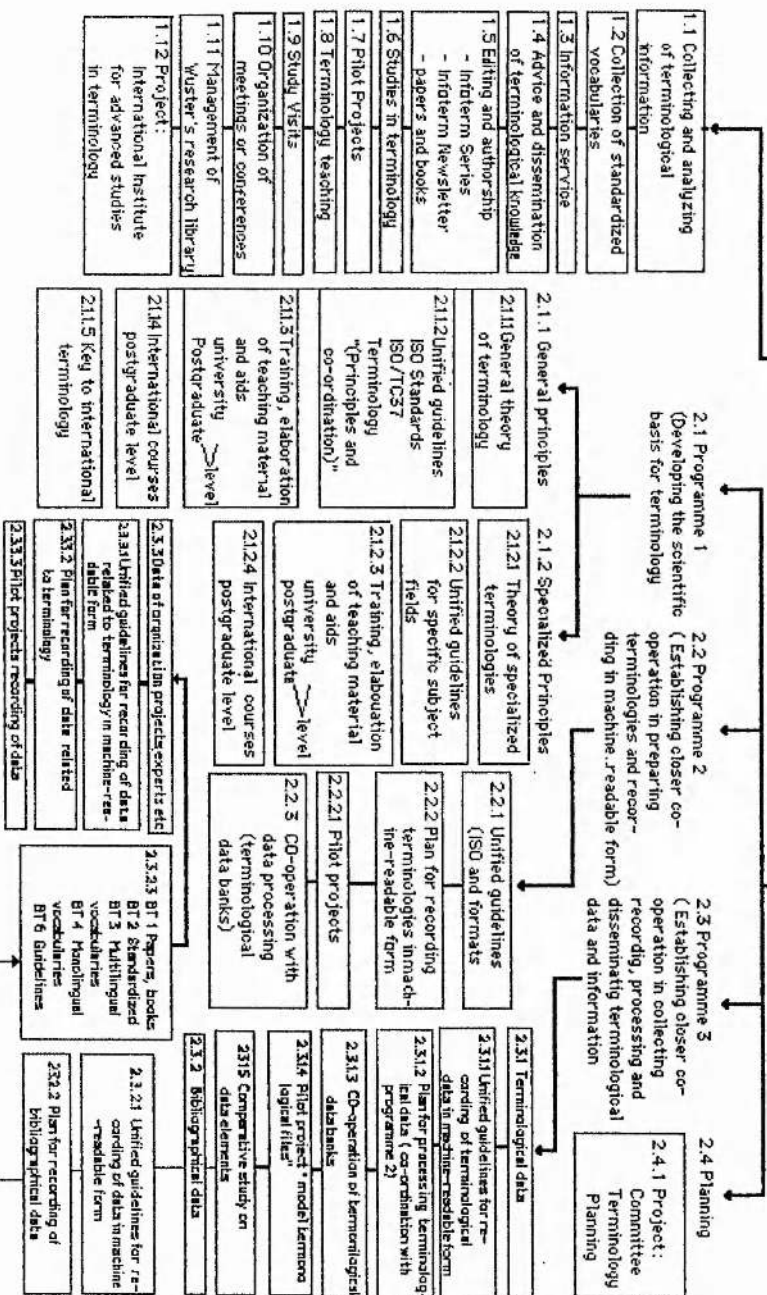
TABLE (5.1)

InfoTerm

Abbreviations:
 IT = International Bibliography
 Inform = International Information
 Center for Terminology
 ISO = International Organization for
 Standardization
 TermNet = International Network of
 terminological Activities

1 - General activities

2 - TermNet activities



institutions and organizations as well as individual experts engaged or interested in the field of terminology. (InfoTerm: Ibid) and aims at encouraging:

- Scientific and methodological research for terminological work.
- The application of unified principles and methods in terminology work.
- The preparation of terms and their recording in machine-readable form.
- The collection, recording and storing of terminological data.
- The collection, recording, analysis and storing of information on terminology.
- The dissemination of information on terminology.

5.3 TERMINOLOGICAL ACTIVITIES IN THE ARAB WORLD

INTRODUCTION

5.3.1 INTRODUCTION

In their attempts to encourage the establishment of a standardized terminology in Arabic, many institutions as well as individual scholars throughout the Arab world are engaged in different forms of terminological activity, which among many things, may include:

- The development of modern research and training programmes in terminology.
- The setting up of general guidelines for term creation.
- The coordination of terminological work and the formation of a unified Arabic vocabulary.
- The establishment of terminological data bank(s).

The following pages attempt to shed some light on the above aspects of terminological activities throughout the Arab world.

5.3.2 RESEARCH AND TRAINING PROGRAMMES

At a number of universities in the Arab world Chairs for terminology have been established.

In Tunisia, at the Institute Bourquiba de langues Vivantes of the Université de Tunis, in Morocco at the University of Mohamed V, and at the Institute d'Etude de Recherches pour Arabization. Other Arab universities e.g. Cairo in Egypt and Qatar University in the Gulf provide courses on terminological studies.

The most advanced training in terminological activities in the Arab world is to be found at the above mentioned Bourguiba Institute in Tunisia.

The Institute which was founded in 1961 for the training of translators and interpreters has since 1976 been teaching the theory of terminology and its application to Arabic ('Ubaid 1986: 32), and in 1980-81 elaborated a special curriculum for terminology which covers four terms and according to Nedobitry (1984: 9), provides a good overview of the basis of terminology and lexicography.

5.3.3 THE SETTING UP OF GUIDELINE PRINCIPLES FOR TERM CREATION IN ARABIC

In addition to the above research and training in terminology, many Arab institutions as well as individual scholars are increasing their efforts to establish a unified method for lexical expansion in Arabic.

Among institutions active in this field one may refer to (ASMO) the Arabic Organisation for Standardization and Metrology⁸ which was established in

⁸ (Al-munazzamah al-'Arabiyyah lil muwāṣafāt wa al-maqāyīs).

1968 with a view to unify technical terms in Arabic (see Ityayyim, 1986: 11).

To this end ASMO has established the Technical Committee (TC5) which was assigned the task of standardizing Arabic methods of term creation and which has already accomplished the translation into Arabic of several standards of ISO/TC 37 as well as the Canadian vocabulary of terminology (see *al-Lisān al-'Arabī* (1987-22)).

The existence of different methods of lexical creation in Arabic can represent a major dilemma in Arabic terminology formation.

Obviously, every Arabic academy has its own preferred methods of lexical expansion (al-Kassimi 1986-27: 83). Moreover, many individual terminologists and scientists have already established their own principles of providing the language with new expressions.⁹

⁹ The following are a few examples of such methods:
 - Al-Khateeb, "manhajiyat wadh' al-mustalahāt al-jadidah", *Shu'oun 'Arabīyah*, Tunisia, 1983, 13: 145-153.
 Al-Hilālī: manhajiyat wadh' al-mustalahāt al-tibbiya. *Al-Lisān al-'Arabī* 1986-27: 93.
 Ghazāl, *al-manhajiyah al-jadidah li wadh' al-mustalahāt al-'Arabīya*. Rabat 1976.
 Al-Yāfī, A., "tajrubatī fī ta'rib al-mustalahāt al-'ilmīyah", *MAAA* 1978-52.

One of the attempts at solving the problem was a symposium on the unification of methods for creating Arabic scientific terms¹⁰ which was held in Rabat (Morocco) between the 18th and the 20th of February 1981. The Symposium held under the auspices of Alecso (The Arab League Educational, Cultural and Scientific Organization) with the participation of 16 different committees from all over the Arab world issued the following basic principles for choosing and creating Arabic scientific terms (al-mabādi' al-'asāsiyah fī ikhtiyār al-mustalahāt al-'ilmīyah wa wadh'ihā):

1. The necessity of the existence of some kind of relation or similarity between the general meaning of the term and its specific significance, although it is not necessary that a term should cover the whole scientific meaning it represents.
2. Only one term must be given to the scientific concept in the particular field.
3. To avoid having multiple significants for one term.
4. The revival of classical scientific Arabic or Arabicized (borrowed) terms.

Al Malā'ikah, J., "fī asātib ikhtiyār al-mustalah al-'ilmī wa mutataḥallabāt wadh'ihī". *al-Lisān al-'Arabī*, 1985-24: 35-40.

¹⁰ (Nadwat tawhīd manḥajiyāt wadh' al-mustalah al-'ilmī al-'Arabī) See *al-Lisān al-'Arabī* 1980-18: 175.

5. The following of the international method in choosing scientific terminology.
6. Means of creating new scientific terms in Arabic are: (turāth) the use of old terms, and (tawlīd) the generation of new words by Majāz (metaphor) Ishtiqaq (derivation) ta'rīb (borrowing) or naht (blending).
7. Common native words are to be preferred to borrowed (Arabicized) ones.
8. To avoid colloquial vocabulary except in cases of necessity and where terms are shared among different Arabic dialects.
9. Preference for the clear and lucid form (ḡīḥah) and the avoidance of the incongruous vocabulary.
10. Preference for those words which can be subjected to the derivational process rather than those which cannot be used for further derivation.
11. Single words are preferred as they are more flexible for derivation, nisbah, idhāfa, tathniyah and jam'.
12. Specific words are preferred to general or vague ones, taking into account the need for an agreement between the Arabic term and the scientific significance of the foreign term regardless of the latter's lexical indication.

13. In the case of synonyms, a word with a root that indicates the original concept in a more clear manner is preferred.
14. Common words are to be preferred to rare or infrequent ones unless there may arise confusion between their meanings and the scientific significance.
15. In the case of synonyms or different words with similar meanings, the specific scientific significance should clearly be determined and given the appropriate scientific term.
16. Arabicized (borrowed) or translated terms and scientific meanings adopted by experts should be taken into consideration.
17. The means of borrowing (ta'rib) may be adopted in the case of necessity, especially for terms with international currency such as the neo-classical (Greek or Latin) words, names of scientists, or chemical components.
18. In borrowing foreign words, the following should be taken into account:
 - a. Adopting an easily pronounced written form for borrowed words which differ from Arabic in their pronunciation.
 - b. The formation of the foreign words after an acceptable native pattern.

- c. A borrowed term is to be considered as a native word subject to the rules of the language and apt for derivation and blending.
- d. Medieval Arabic terms which were used in other languages are to be used after being given their original Arabic forms.

It is not our intention however to examine the above "basic" principles though one cannot fail to detect some imprecision which can raise many questions (see al-Fihri 1985: 190).

Yet, it seems worthwhile to argue that such emphasis on the (turāth) revival of classical Arabic and "mu'arrab" terms (see points: 4 and 6 above) cannot be supported by the rapid growth of modern vocabulary whereby 50 to 100 new terms in the various fields of human knowledge are being created on a daily basis (see: *al-Lisān al-'Arabī* 1987-28: 271).

Moreover, the establishment of an old term to signify a new scientific concept can indeed lead to a variety of cases of confusion (see al-Fihri, 1984-23: 145).

However, a call for the setting up of a unified method of term creation in Arabic, has been at the top of a twenty-eight point list of recommendations passed at a recent symposium on "Arabic cooperation in terminology as a topic for research and application"¹¹ which was held in Tunisia between the 7th and the 10th of July 1986. The recommendation calls for agreement prepared by a special committee in no later than 1987 on a specific methodology to be established on the basis of the above principles as well as the various existing methods (see: *al-Lisān al-ʿArabī*, 28, 1987, p. 272).

5.3.4 THE COORDINATION OF TERMINOLOGICAL WORK, AND THE FORMATION OF A UNIFIED TERMINOLOGY IN ARABIC

The fact that attempts to furnish Arabic with new expressions in the various fields of human knowledge have often come from isolated conflicting initiatives has given rise to wide differences in terms prepared to express concepts rendered by a single word in languages such as English or French. The situation calculated is likely to lead to confusion since "the existence of a profusion of synonyms is no longer regarded as a sign of linguistic richness or a reflection of the inherent quality of the language" (BenʿAbdallah 1976-14: VI).

¹¹ (*Nadwat al-taʿāwun al-ʿArabī fī majāl al-mustalahāt ʿilman wa tatbīqan*).

To give an example of the case in point, we may refer to al-Malā'ikah (1986: 229) who in a recent meeting of experts to discuss some problems in the computerizing of Arabic, has noticed that almost everyone participating in that discussion used a different Arabic name for the "computer" such as:

al-ḥāsib al-'ālī

al-ḥāsib al-iliktrūnī

al-ḥāsibah al-iliktrūniyah

al-'aql al-'ālī

al-'aql al-iliktrūnī

al-ḥāsūb

al-ḥaysūb

al-mihsāb

al-ḥassābah

al-ḥussābah

al-mihsābah

al-nazzāmah

The situation has been a cause of major concern for many Arab terminologists and scientists who have been stressing the need for the coordination of the various attempts of lexical production.

Fahmī, for example, indicated that creating a new Arabic term for a modern concept is an easy task, the difficult part is arriving at a common agreement among Arab scholars on adopting that term (Fahmī 1951: 151). Mustafā al-Shihābī who proposed a plan for terminological coordination states that "as the creation of new terms in Arabic will for a period of time continue to be the work of individuals as well as academics, the problem of term multiplicity will persist, since every one of our scholars has his own method of treating every single foreign word" (al-Shihābī 1955: 141).

In addition to the lack of unified method of lexical creation, the multiplicity of Arabic technoscientific terms is usually attributed to the following factors:

1. The variance of the source languages adopted as model of lexical development. (English in countries like Iraq, Jordan, Saudi Arabia, and French in most of the North African states).
2. The lack of cooperation among the various academics, linguistic committees, lexicographers and individuals, who are actively engaged in lexical enhancement.

3. The presence of synonyms in both Arabic and the source language.
4. The neglect of the traditional Arabic (scientific) vocabulary.
5. The dilemma of putting Arabic terminology into practice and use.

Such an alarming situation may lead to the rise of different scientific languages in the Arab world and consequently threaten the very nature of "Arabic", the basic means of Arab unity¹² (see *al-Lisān al-ʿArabī*, 17, 1979: p. 228).

5.3.4.1 THE UNION OF ARAB ACADEMICS

One of the first efforts in coordinating the work of Arabic language academics was a conference held in Damascus in 1959 which led to an agreement between those institutions to cooperate in their activities.

In 1960 and during their political union, Egypt and Syria issued a joint resolution calling for the combining of their academies into a single institution which was to be quartered in Cairo and headed by the

¹² A textbook on mathematics issued by UNESCO was recently translated into different forms of Arabic in Egypt, Iraq, Syria, Kuwait, and Jordan whereby each version used varying symbols and terminology (see al-Anṣārī 1988: 171).

minister of education of the central government. The plan was however dissolved with the dissolution of that union.

In 1970, the Union of Arab Language Academies¹³ was established in Cairo to include the Egyptian, Syrian, Iraqi, Jordanian, and any other language academy which may be established in the future by an independent Arab state and accepted by the union's council (see *al-Lisān al-‘Arabī*, 1971, 8: 540). The objectives of the union (Ibid.) are:

- The systematization of communication between Arab language academics, and the coordination of their efforts in respect to the language and its linguistic and scientific heritage.
- Working towards the unification and dissemination of scientific, technical and cultural Arabic terminology.

The Union is directed by a council (majlis) which is represented by two members from each academy as well

¹³ This Union is called "ittihād al-majāmi‘ al-lughawiyah al-‘ilmīyah al-‘Arabiya" (The Union of Arab Linguistic and Scientific Academics).

as the chairman of the cultural committee of the Arab League.¹⁴

Shammām (1976-14: 200) however, believes that such a Union has never been a reality owing to the concern of Arab states to solve their particular problems within their own systems.

The union, continues to exist on paper and in the plans of interested members waiting for cooperation to resume operations (El Khafaifi 1986: 67).

5.3.4.2. THE COORDINATION BUREAU OF ARABIZATION

The establishment of the coordination bureau of Arabization (henceforth CBA) was one of the outcomes of the first conference on Arabization which was held in Rabat (Morocco) in 1961.

One of the most important suggestions of that conference was the creation of a permanent bureau which among other things, would carry out the task of coordinating the various attempts to furnish the language with new terms, working towards the creation of

¹⁴ This was however established as "Alecso" (The Arab League Educational, Cultural, and Scientific Organization) in 1972.

a unified cultural and scientific terminology in Arabic (*al-Lisān al-ʿArabī* 17, 1979: p. 328).

The CBA, which was officially placed under the auspices of the Arab League in 1969, has been very active in cooperating with various Arab institutions in order to accomplish its stated objectives.¹⁵

As far as the method of coordinating Arabic vocabulary is concerned the bureau:

- collects the variety of Arabic terms designed to signify foreign terms in any subject.
- organizes meetings where experts examine and compare those terms.
- prepares for the conferences on Arabization which discuss, unify, approve and disseminate those terms throughout the Arab countries.

According to a fixed plan for unifying Arabic terms for general, technical and higher education, the CBA has already accomplished the production of 13 glossaries of different subjects in general education which were

¹⁵ A complete list of those objectives is given in *al-Lisān al-ʿArabī*, 7, 1970: 369).

approved by the second conference on Arabization in Algeria in 1973.

As can be seen in the following tables, many Arabic institutions are very active in the process of lexical standardization, either by direct cooperation with the CBA or through annually conferences on (ta'rīb) Arabization where many glossaries on different subjects are presented for final approval.

In addition to organizations like Alecso and Asmo, there are some others that are actively participating in such a process, as, for example, the Arabic Organization of Management Sciences¹⁶ which in 1981 issued:

"al-mu'jam al-'Arabī al-muwahhad li mustalahāt al-ḥāsibāt al-iliktrūnīyah"

- The Arabic Organization of Botanists - the Union of Arab physicians which, in 1966, established a committee for the unification of Arabic medical terminology and produced in 1973 the Unified Medical Dictionary, and the Arab monetary fund which has

¹⁶ (al-munazzamah al-'Arabīyah lil 'ulūm al-idāriyah).

recently created the scientific committee for the unification of Arabic economic and financial terms.¹⁷

5.3.5 UNIFIED GLOSSARIES APPROVED BY THE CONFERENCES ON ARABIZATION

The following is a list of dictionaries unified and approved by the:

- Second Conference on Arabization, Algeria 12-20. 12. 1973.
- The third Conference on Arabization, Libya 9-16. 2. 1977.
- The fourth Conference on Arabization, Morocco 20-22. 4. 1981.
- The fifth Conference on Arabization, Jordan 22-26. 9. 1985.

¹⁷ *Al-Riyādh* (daily newspaper) No 8679, 2-7, 1989.

FIGURE 4.1 THE SECOND CONFERENCE ON ARABIZATION

Name of glossary	Educational stage	Number of terms	Year of publication	Publisher
Dictionary of Zoology	general education	2899	1976	Iraqi (majma ⁶) Academy
Dictionary of Physics	general education	2820	1977	Iraqi (majma ⁶) Academy
Dictionary of Chemistry	general education	1920	1977	Syrian (majma ⁶) Academy
Dictionary of Geology	general education	1797	1977	Syrian (majma ⁶) Academy
Dictionary of Botany	general education	4141	1978	Syrian (majma ⁶) Academy
Dictionary of Mathematics	general education	1840	1979	Iraqi (majma ⁶) Academy

FIGURE 4.2 THE THIRD CONFERENCE ON ARABIZATION

Name of glossary	Educational stage	Number of terms	Year of publication	Publisher
Terminology of Geography and Astronomy	general education	1713	1977	CBA
Terminology of History	general education	823	1977	CBA
Terminology of Philosophy	general education	1358	1977	CBA
Terminology of Mathematics	general education	1613	1977	CBA
Terminology of Health and human Body	general education	2110	1977	CBA
Terminology of Mathematics	higher education	1931	1977	CBA
Terminology of Statistics	general education	556	1977	CBA
Terminology of Astronomy	general education	479	1977	CBA

FIGURE 4.3 THE FOURTH CONFERENCE ON ARABIZATION

Name of glossary	Educational stage	Publisher
Dictionary of Electricity	technical education	in preparation
Dictionary of Accounting	technical education	in preparation
Dictionary of Commerce	technical education	in preparation
Dictionary of Painting	technical education	in preparation
Dictionary of Computing	technical education	in preparation
Dictionary of Petroleum	technical education	in preparation
Dictionary of Electronic Calculators	technical education	ed. by the Arabic Organization of Management Sciences

FIGURE 4.4 THE FIFTH CONFERENCE OF ARABIZATION

Name of glossary	Number of terms	Editor
Dictionary of Agriculture	-	Arabic Organisation of Agricultural Sciences
Dictionary of General Physics	5438	The Union of Arab Physicists
dictionary of Linguistics	3262	Alecso

5.3.6 TERMINOLOGICAL DATA BANKS

Since the sixties, attention has been directed towards machine assisted translation which gave rise to the establishment of terminological data banks.

At present, such banks are being established and developed in many national and transnational institutions of the world.

The most important present function of terminological data banks according to Felber (1986: 118) is:

- to answer queries on systematic terminologies.
- to supply information on terminological data of concepts.
- to produce dictionaries and vocabulary.
- to achieve a unified terminology in texts.
- to serve as a tool for the unification and standardization of terminology.
- to serve as a tool for terminology research.

The significance of the above has led some scholars to call for the creation of a central terminological

data bank in the Arab world¹⁸ to which all users such as language academies, universities, etc. can contribute and make use of via connected terminal. Currently, however, some institutions like the CBA and the IERA (Institut d'Etude de Recherches pour Arabization) are storing their terminology in some European data banks. Others are attempting to establish their own term banks. The University of Mousil in Iraq is storing in its computer scientific and technical terms relevant to a number of courses, (Nedobity 1984-9). In Saudi Arabia, the Saudi Terminological Data Bank (BASM)¹⁹ was established in 1983 by KACST (King Abdul Aziz City for Science and Technology).

The purpose of the above bank project, according to Sieny (1986: 196), is to help Arabization of science and technology in four ways:

1. By compiling an extensive machine dictionary and opening its contents to translators of scientific and technical works, translators of mass media, and readers of scientific and technical material in all

¹⁸ See al-Kassimi, "Towards a Central Terminological Data Bank in the Arab World", *al-Lisān al-'Arabī*, 18, (1980.).

¹⁹ al-Bank al-ʿĀlī al-Suʿūdī lil Muṣṭalahāt.

the languages of BASM, Arabic, English, French and German.

2. Preparing the scientific and technical part of a dictionary for machine translation or machine-aided translation.
3. To help in the dissemination of scientific and technical terminology on all levels, academic, specialist and lay.
4. Providing an aid to Arab terminologists which will help both in the coinage of new terms and in the standardization and unification of Arabic terminology in the fields of science and technology.

5.4 CONCLUSION

As pointed out earlier, there is a growing tendency in the Arab world towards the creation of a standardized vocabulary, to serve as a sufficient tool in the process of introducing Arabic into the various spheres of modern communication.

It is obvious, however, that there is a notable lack of agreement among Arab scholars on a method for handling the language's lexical deficiency.

Moreover, reluctance towards using the means of lexical borrowing, can be seen to be an important motive behind the accumulation of a (rapidly growing) number of "foreign" terms waiting to be subjected to the processes of discussion, assimilation, and standardization.

It is important to stress here that unless they were put into a unified form of usage, one may doubt the significance of such a quantity of standardized Arabic terms, stored in either different glossaries or terminological data banks.

It does seem obvious that, despite various attempts at standardization, a unified vocabulary is not yet a reality in the Arab world.

To illustrate the case in point let us refer to the notion of ta'rib, which has recently been the subject of a wide variety of Arabic writing.²⁰

A close look at such material reveals many confusions, which can mainly be attributed to the inconsistent application to the general concept of

²⁰ al-Kassimi (1984-23, 1: 48) argues that the huge number of pages written on the subject of ta'rib, are enough to cover the entire area of the Arab world.

ta'rib̄ (Arabization or Arabicization) of a range of different meanings.

As the following examples illustrate, the notion of ta'rib̄ has been extended by some modern Arab writers to cover areas beyond its classical restriction to borrowing and adjusting a borrowed word to the native norms of the language.

Thus, the notion of ta'rib̄ as adopted in the modern literature can refer to:

- The terminological work of finding native equivalents for foreign vocabulary items. (Suwaisī 1976-14: 176);
- The unification of Arabic terms. (Sābir 1982: 69);
- The translation into Arabic of different texts originally written in other languages (al Khūrī 1987b: 88).
- The process of transfer, where the foreign text is being reproduced in an original Arabic form (Ghunaim 1989: 64).

Moreover, the notion of ta'rib̄, as frequently emphasized by many Arab intellectuals, refers also to the broad sense of adapting the language to the sphere

of modern communication hitherto secured by for languages.

Yet, for a lot of different reasons the understanding of the sense of Arabization may vary from one Arab country to another. While conceived as the introduction of Arabic into higher and scientific education in countries like Iraq, Jordan and/or Saudi Arabia, the term itself can draw on a wide variety of national, social, and political implications in the North African states.

The Moroccan Ministry of Education, for example, defines al-ta'rib as:

"Using Arabic as the only medium of education, expanding the language by creating new terms, adopting Arabic as the means of administrative communication. Promoting the language, and resisting the use of "foreign" languages in communication.

In general, ta'rib is the development of the Arabic language into an efficient tool, capable of expressing what comes under perception, as well as those emotions, thoughts, and meanings that are shared in the consciousness of all human beings, living in the age of atom bombs and missiles (see Ahmad 1986: 43).

It is not surprising, therefore, to come across many arguments on ta'rib where the concept, refers to

"the return to the genuine Arabic identity (Sayyādī 1982: 37) and "the predominance of Arabic thoughts and values" (Ṣābir 1979-23: 10), since " there is no point in Arabizing vocabulary, while (ʿujmah) non-Arabness still dominates the mentality, and where an Arab gradually abandons his own national identity (Suwaisī 1976-14: 177).

CHAPTER SIX

CONCLUSIONS

It goes without saying, that the modernisation of Arabic vocabulary is a multidimensional subject which involves a wide variety of linguistic and extra-linguistic considerations. The preceding chapters of this study are an attempt to elucidate linguistic and cultural aspects in relation to the growth and standardization of Arabic vocabulary. Consequently the conclusions of these chapters can be summarized in the following points, which are however intended to be fully understood only with reference to the relevant issues dealt with throughout the thesis:

1. The question of adapting Arabic to the needs of the modern age may constitute a basic element in the multidimensional process of general development and modernisation in the Arab world.
- 2.1 The analogical method of derivation (al Ishtiqaq) has always been regarded as the most important of the means adopted in the course of Arabic lexical development.

- 2.2 The scope of the notion of Ishtiḳāq, and the nature of the phenomenon involved, constitute a major element in the different definitions and descriptions of the concept itself in Arabic linguistic studies.
- 2.2 This study takes al Ishtiḳāq as a method of lexical creation on the basis of abstracting certain radicals from one word, and combining them with a native morphological pattern, to create a new word, by qiyās (analogy).
- 2.5 The main task of the Arabic Language Academy (Majma') in Cairo has been to keep the processes of lexical creation in line with the characteristic systems of the language. Consequently, most of its work in creating new vocabulary, consists in a careful investigation of the classical material in a conservative spirit, rather than a radical attempt to reform.
- 2.5.6 It seems impossible to arrive at an exact systematic classification of the nominal patterns organising the huge richness of Arabic words. New developments in the various branches of

knowledge have been a major factor in the introduction of new terms, and consequently the employment of different native patterns.

2.6.2 The establishment of a specific form as the base for other derivatives can easily be contradicted by the fact that the root (according to some analogical aspects) may be abstracted from different patterns of the language .

2.7 Derivation from concrete nouns is a process which would certainly lead to the introduction of a huge quantity of roots abstracted from many native and other foreign nouns, which when analogically combined with the various Arabic lexical patterns, can provide the language with a great variety of new derivations.

2.8 The use of the nisbah suffixes of 'īy and 'īyyah has been one of the most productive means of lexical growth in modern literary Arabic.

3.3 It seems clear that the concept of "mu'arrab" has been constantly confused with that of "dakhīl" in many Arabic discussions on borrowing.

The vagueness seems to be a matter attributable to lack of agreement on the nature of the process of borrowing. An approach based on the assumption that "mu'arrab" in a broad sense includes all foreign words used by the Arab speakers at a certain period (that usually ends with the fourth Islamic century) would classify any late innovation as dakhil or muwallad whether the word is structurally adjusted or not. Whereas, according to a view established on a strict linguistic classification, such adjustment is the only major factor of distinction.

3.4 Although recognized and accepted by the majority of modern Arab scholars, the use of lexical borrowing has, as a method on linguistic and cultural grounds, been subjected to cautious and even negative attitudes.

4.1 Owing to the fact that the various discussions of Tarkib of and Naht in Arabic reveal an absence of common agreement on a precise definition and specification of these processes, vagueness and indeterminacy arise in actual linguistic description.

- 4.2.3 The phenomenon of tarkīb can be seen as a process of lexical development whereby a variety of European techno-scientific "compound" words are rendered into new Arabic "murakkab" lexical units.
- 4.3.4 The method of naḥt has been applied in Modern Standard Arabic as a second-order procedure of abbreviating Arabic murakkab words, and adapting existing native vocabulary to certain forms of lexical formation.
- 5.4 Unless they were active in agreed usage, one may doubt the usefulness of a large quantity of standardized Arabic terms, stored either in different glossaries or in terminological data banks. It does seem obvious, that despite various attempts at standardization, a unified vocabulary is not yet a reality in the Arab world.

BIBLIOGRAPHY

- ‘Abdel Massīh. E.T. (1975): *A Sample Lexicon of Pan-Arabic*. Centre for Near Eastern & North African Studies. The University of Michigan. Ann Arbor.
- ‘Abdel Tawwāb, Ramadhān (1981): *al-Tatawwur al-Lughawī*. Cairo.
- (1982): *al-Madkhal ilā ‘ilm al-lughah wa manāhiḡ al-baḡth al-lughawī*. Cairo.
- (1983): *Fuṣūl fī fiqh al-‘Arabīyah*. Cairo.
- ‘Abdul Raḡmān, ‘Afīf (1981): *al-Juhūd al-Lughawīyah khilāl al-qarn al-rābi‘ ‘ashar al-hijrī*. Dār al-rashīd lil nashr. Baghdad.
- ‘Abde r-raḡmān, W. H. (1981): "The Role of Derivation in the Processes of Neologisation in Modern Literary Arabic", Unpublished Ph.D. thesis. School of Oriental and African Studies. London.
- (1982): "al-Lughah wa wadh‘ al-muṣṭalah al-jadīd. *al-Lisān al-‘Arabī*, No. 19/1, 67-78.
- (1985): "Manhajīyāt wadh‘ al-muṣṭalahāt al-jadīdah fī al-mīzān", *al-Lisān al-‘Arabī*, No. 24, 57-65.
- Abū ‘Abduh, Muḡammad (1982): "Mashākil al-ta‘rīb al-lughawīyah", *al-Lisān al-‘Arabī*, No. 19/1, 103-110.
- Adams, V. (1973): *An Introduction to Modern English Word-Formation*. Longman.

- Addi Shir, A. (1980): *A Dictionary of Persian Loan-Words in the Arabic Language*. Librairie du Liban.
- al-Afghānī, Sa'īd (1971). *Min ḥādhir al-lughah al-'Arabīyah Dār al-Fikr*. Beirut.
- Aḥmad Nāzī, M. (1986): *al-Ta'rīb wa al-qawmīyah al-'Arabīyah fī al-maghrib al-'Arabī*. Markaz Dirāsāt al-Waḥdah al-'Arabīyah, Beirut, Lebanon.
- Aitchison, J. (1981): *Language Change Progress or Decay?* Fontana.
- al-'Alamī, Idrīs (1976): "Mazāliq al-ta'rīb. *al-Lisān al-'Arabī*, No. 14, 144-148.
- 'Alī, A. M. (1983): "Analogical Derivation of Nominals in Modern Standard Arabic, with Special Reference to Technical Lexicons". Unpublished Ph.D. thesis, University of Leeds.
- (1985): "Min ajli mafhumin adaq lil ishtiḳāq", *al-Lisān al-'Arabī*, Vol 25, 15.
- 'Alī, 'Abdul-Ṣaḥīb, Mehdi (1987): *A Linguistic Study of the Development of Scientific Vocabulary in Standard Arabic*. Kegan Paul International. London.
- 'Alī, Thurayyā, K. (1982): *Dalīl al-bāḥith al-lughawī fī al-dawriyāt al-'Arabīya*. Mu'assasat al-Risālah. Beirut.
- Amin, 'Abdullah (1956): *al-Ishtiḳāq*. Matbū'āt lajnat al-ta'līf wa al-tarjamah wa al-nashr. Cairo.

- Amīn, Aḥmad (1964): "Mushkilāt al-ʿArabīyah wa iqtirāḥ.
Majallat al-majmaʿ al-ʿilmī al-ʿArabī, 39/4, 529-
 545.
- ibn al-Anbārī (n.d.): *Lumaʿ al-adillāh fī usūl al-naḥw*,
 (ed.) ʿAtīyah ʿĀmir, Acta Universitatis,
 Stockholmiensis Stokholm Oriental Studies III.
- (1945): *al-Insāf fī masāʾil al-khilāf bayna al-
 kufīyīn wa al-basrīyīn*. Maṭbaʿat al-Istiḳāmah.
 Cairo.
- Anderson, James, M. (1973): *Structural Aspects of
 Language Change*. Longman Group Ltd..
- al-ʿĀni and Sieny, (eds.) (1986): *Studies in Machine
 Translation*. Proceedings of the International
 Workshop of Computer Aided Translation, Organised by
 King ʿAbdul ʿAzīz City for Science and Technology in
 Riyadh 16-17 March, 1985, Riyadh. Saudi Arabia.
- Anīs, Ibrahīm (1970): *al-Lughah bayna al-qawmīyah wa al-
 ʿāla mīyah*. Dār al-Maʿārif. Cairo.
- (1973): *fī al-lahajāt al-ʿArabīyah*. Maktabat
 al-Anglo al-Misrīyah. Cairo.
- (1980): *Dalālat al-Alfāz*. Maktabat al-anglo al-
 misrīyah. Cairo.
- (1985): *Min asrār al-lughah*. Maktabat al-anglo
 al-Misrīyah. Cairo.

- al-Anṣārī, M. J. (1988): "al-ta'rib al-jāmi'ī wa ḥatmiyat al-muqārabah al-maydāniyah". *Risālat al-Khaleej al-'Arabī*, Issue No. 24, Eighth Year, 151-189. Riyadh, Saudi Arabia.
- Ayyūb, 'Abderrahmān (1969): *al-Lughah wa al-tatawwur*. Ma'had al-Buhūth wa al-Dirāsāt al-'Arabīyah. Cairo.
- 'Azīz, Y.Y. (1968): "The Influence of English Grammar Syntax and Idiom Upon Contemporary Literary Arabic". Unpublished Ph.D. thesis, University of St. Andrews.
- Bakalla, M. H. (1981): *Arabic Linguistics. An Introduction and Bibliography*. Mansell Publishing Ltd., London.:
- (1984): *Arabic Culture Through Its Language and Literature*. Kegan Paul International Ltd., London.
- al-Ba'labakkī, Muneer (1983): *al-Mawrid*. Dār al-'ilm lil malāyīn, Beirut.
- Barnett, H. G. (1953): *Innovation: the Basis of Cultural Change*. 1st Edition, New York (McCraw-Hillbook Company Inc.
- ibn Barri (1985): *fī al-ta'rib wa al-mu'arrab: Hāshiyat Ibn Barri 'ala kitāb al-mu'arrab li ibn al-Jawālīqī*. Ed. Ibrāhīm al-Samarra'ī, mu'assasat al-Risālah, Beirut.

- Bauer, L. (1983): *English Word-Formation*. Cambridge University Press.
- Beeston, A.F.L. (1970): *The Arabic Language Today*. Hutchinson University Library. London.
- Ben Abdallah, A. (1975): *al-Ta'rib wa mustaqbal al-lughah al-'Arabīyah*. Ma'had al-buhūth wa al-dirāsāt al-'Arabīyah, Cairo.
- (1976): "Problems of Arabization in Science. *al-Lisān al-'Arabī*, No 14, V-XIII.
- (1982): "Mu'tamarāt al-ta'rib wa dawruhā fī tawhīd al-mustalahāt al-'Arabīyah", *al-Lisān al-'Arabī*, No. 19, 11-13.
- Benabdi, Linda (1980): *Arabization in Algeria*. Unpublished Ph.D. Dissertation. Indiana University.
- (1986): "Lexical Expansion in the Maghrib (the Functional Linguistic Corpus", *International Journal of the Sociology of Language*, 61, 65-78.
- Bergsträsser, G. (1982): *al-tatawwur al-nahwī lil lughah al-'Arabīyah*. Maktabat al-Khānjī, Cairo.
- Bishai, W. B. (1964): "Coptic Influence on Egyptian Arabic." *Journal of Near Eastern Studies*. 23, 39-48.
- Bishr, Kamāl, M. (1973): *Dirāsāt fī 'ilm al-lughah*. Dār al-Ma 'ārif, Cairo.

Blau, J. (1981): *The Renaissance of Modern Hebrew and Modern Standard Arabic*. University of California Press.

..... (1984): "The Contribution of Middle Arabic to the Vocabulary of Modern Standard Arabic". Toronto Pontifical Institute of Medieval Studies. *Papers in Medieval Studies*. 6, 9-20.

Bloomfield, L. (1976): *Language*. London.

Blount, B. G. (1974): *Language, Culture and Society, a Book of Readings*. Winthrop Publishers Inc., Cambridge.

Bynon, Theodora (1977): *Historical Linguistics*. Cambridge University Press.

Cachia, Pierre (1973): *The Monitor: A Dictionary of Arabic Grammatical Terms*. Librairie du Liban, Beirut.

Chejne, Anwar (1969): *The Arabic Language. Its Role in History*. University of Minnesota Press.

Cohen, M. (1975): *Language, Its Structure and Evolution*. Souvenir Press (Educational and Academic) Ltd., London.

Cowan, D. (1958): *An Introduction to Modern Literary Arabic*. Cambridge.

- Crystal, D. (1985): *A Dictionary of Linguistics and Phonetics*. Basil Blackwell in association with Andre Deutsch.
- Darrāz, Tahtāwī, M. T. M. (1969): *Ẓāhirat al-ishtiḳāq fī al-lughah al-ʿArabiyyah*. M. A. Thesis, University of Alexandria, Egypt.
- Daykin, Vernon (1972): *Technical Arabic: A Language Reader incorporating Technical and Scientific Terms*. Lund Humphries, London.
- Doroszewski, Witold (1973): *Elements of Lexicology and Semiotics*. Mouton. The Hague, Paris.
- Downess, William (1984): *Language and Society*. Fontana.
- Dozy, R. P. A. (1927): *Supplément Aux Dictionnaires Arabes*. Leide-Paris.
- Drozdk, Ladislav (1967): "Compounding as a Second Order Word-Formation Procedure in Modern Written Arabic. *Asian and African Studies*. No. 3, 60-97.
- (1979): "Lexical Innovation Through Borrowing as Presented by Arab Scholars. *Asian and African Studies*, 15, 21-29.
- ... (1988): "Culturally Conditioned Shift From Multiword to One-Word Units in the Lexicon of Modern Written Arabic. *Asian and African Studies*, No. 23, 141-148.

- (1989): "Word-Class Shift of Multi-Word Units in the Lexicon of Modern Written Arabic. *Asian and African Studies*. No. 24, 27-35.
- ibn Duraid (1958): *al-Ishtiqaq*. Ed. 'Abdul Salām Hārūn. Cairo.
- 'Eid, Muḥammad (1980): *al mazāhir al tārī'ah 'alā al-fuṣḥā*. 'Ālam al-Kutub, Cairo.
- abū Elfutūḥ, M. H. (n.d.): *qā'imat alfāz al-Qur'ān al-karīm*, 2 volumes, King Saud University, Riyadh, Saudi Arabia.
- Elias, Munā (1985): *al-qiyās fī al-naḥw*. Dār al-fikr, Damascus.
- Eliraz, Giora (1986): "Tradition and Change : Egyptian Intellectuals and Linguistic Reform, 1919-1939. *Asian and African Studies*, 20, 233-262.
- Elkhafaifi, H.M. (1985): "The Role of the Cairo Academy in Coining Scientific Terminology. An Historical and Linguistic Evaluation". Ph. D. Dissertation, University of Utah.
- Elmouloudi, Aziz B. (1986): "Arabic Language Planning; The Case of Lexical Modernisation", Ph. D. Thesis, Georgetown University.
- Emery, P. G. (1983): "Towards the Creation of a Unified Scientific Terminology in Arabic". in Snell (ed.) *Term Banks for Tomorrow's World*, London (ASLIB).

- (1988): "Compound Words in Modern Standard Arabic". *Journal of Arabic Linguistics*. Wiesbaden, 19, 32-43.
- Fahmī, Ḥasan, H. (1961): *al-Marjī' fī ta'rīb al-mustalahāt al-'ilmīyah wa al-fannīyah wa al-handasiyah*. Maktabat al-nahdhah al-misrīyah. Cairo.
- ibn Fāris, Aḥmad (1910): *al-Sāhibī fī fiqh al-lughah wa sunan al-'arab fī kalāmihā*. Cairo.
- Felber, H. (1979): "Theory of Terminology, Terminology Work and Terminology Documentation. *InfoTerm Series*, No. 1.
- Felber, H. (1980): "InfoTerm and TermNet, Plans, Activities, Achievements", *International Classification*, 7, No. 3, 140-144.
- Felber, H. and Nedobity W. (1983): "Teaching and Training of Terminology in Countries with Less Developed Technical Languages." *InfoTerm Series*, 2.
- Felber, H. (1984): "Trends in Terminology:." *InfoTerm Series*, 5.
- (1986): "Terminology and Machine-Assisted Translation in *Studies in Machine translation*. Ed. al-'Ānī, and Sieny, King 'Abdul 'Azīz City for Science & Technology. Riyadh (Saudi Arabia),

- Fellman, Jack (1973): "Socio-Linguistic Problems in the Middle Eastern Arab World". *Anthropological Linguistics*, Bloomington, Indiana 15/1, 24-32.
- Ferguson, C. A. (1959a): "Diglossia". *Word*, 15, 325-340.
- (1959b): "The Arabic Koine". *Language*, 35, 616-30.
- al-Fihri, A.A. (1984): "al-Mustalah al-lisānī", *al-Lisān al-ʿArabī*, No. 23, 139-147.
- (1985): *al-Lisānīyāt wa al-lughah al-ʿarabīyah: namādiḡ tarkībīyah wa dalālīyah*. Dār Tubqal lil nashr, Morocco.
- Fishman, J. A. (1968): "Socio-Linguistic and Language Problems of the Developing Countries", *International Social Science Journal*, 20, 211-25.
- (1973): "Language Modernisation and Planning in Comparison with Other Types of National Modernisation", *Language in Society*, 2, 23-44.
- Friḡa, Anīs (1955): *Nahwa ʿArabīyatin muyassarah*. Dār al-thaqāfah, Beirut.
- Fück, J. (1980): *al-ʿArabīyah*, Translated by Ramadhān ʿAbdul-Tawwāb. Maktabat al-Khānjī, Egypt.
- Ghazāl, Aḡmad, A. (1976): *al-Manhajīyah al-jadīdha li wadhʿ mustalahāt al-ʿarabīyah*, Rabat.
- Ghunaim, K. A. (1989): "al lughah al-ʿArabīyah wa al-nahdhah al-manshūdah", *ʿĀlam al-fikr*, 19/4, 37-80.

- Gleason, H.A. (1955): *An Introduction to Descriptive Linguistics*. Holt, Rinehart and Winston, Inc.
- Greenberg, J. H. (1950): "The Patterning of Root Morphemes in Semitic", *Word*, 6, 162-181.
- al-Habīb, Maḥmūd, M. (1979): "Mashākil wa mu'awwiqāt al-ta'rīb", *al-Lisān al-'Arabī*, vol. No. 17, 177-193.
- Haddād, Wadī', A. (1971): "Nature and Language of Scientific Terms in the Arabic Press of the Middle East", *Journal of Educational Research*, 64/10, 465-474.
- Haqqī, Khairuddīn (1975): Imkānāt al-'Arabīyah, *al-Lisān al-'Arabī*, No. 12, 26-35.
- Halliday, M. A. (1978): *Language as a Social Semiotic*. Edward Arnold, London.
- Ḥammād, Aḥmad, A. (1983): 'Awāmil al-tatawwur al-lughawī, Dār al-Andalus, Beirut.
- Ḥammādī, Dhārī (1980): Ḥarakat al-taḥqīq al-lughawī fī al-'aṣr al-ḥadīth, manshūrāt wizārat al-thaqāfah wa al-I'lām, Iraq.
- Hamzaoui, R. (1965): *L'académie de Damas et le problème de la modernization de la langue arabe*. E.J. Brill, Leiden.
- (1975): "al-Sudūr wa al-lawāḥiq wa Silatuhā bi ta'rīb al-'ulūm", *al-Lisān al-'Arabī*, No. 12, 121-138.

- (1985): "al-Manhajiyāt al-‘Arabīyah li wadh‘ al-muṣṭalahāt, *al-Lisān al-‘Arabī*, vol. No. 24, 41-51.
- (1986): *al-‘Arabīyah wa al-Ḥadāthah*. Dār al-gharb al-Islāmī, Beirut.
- al-Ḥarīrī, al-Qāsim ibn ‘Alī (1975): *Durrat al-ghawwās fī awhām al-khawās*, ed. Muḥammad abū al-Fadhl Ibrāhīm. Dār nahdhat Miṣr li al-ṭab‘ wa al-nashr, Cairo.
- Ḥasan, ‘Abbās (N.D): *al-Nahw al-wāfī*. Dār al-ma‘ārif, Cairo.
- Ḥasan, Muḥammad, K. (1976): *al-lughah al-‘Arabīyah al-mu‘āṣirah*. Dār al-ma‘ārif, Cairo.
- al-Hāshimī, A. (1983): "Kayfiyat ta‘rīb al-sawābiq wa al-lawāḥiq", *al-Lisān al-‘Arabī*, 21, 63-96.
- al-Ḥagrī, Sāṭi‘ (1975): "Ḥawla al-istilahāt al-‘ilmīyah", *al-Lisān al-‘Arabī*, No. 12, 36-49.
- Ḥassān, Tammām (n.d): *al-lughah al-‘Arabīyah ma‘nāhā wa mabnāhā*. Dār al-thaqāfah, Morocco.
- (1974): *Manāhiḥ al-baḥth fī al-lughah*, Dār al-thaqāfa, Morocco.
- (1980): *al-lughah bayna al-mi‘yārīyah wa al-waṣfiyah*. Morocco.
- Haugen, Einar (1950): "The Analysis of Linguistic Borrowing", *Language*, XXVI, 210-31.

Haywood, John (1965): *Arabic Lexicography*. Leiden, E.J. Brill.

Hijāzī, Maḥmūd, F. (1973): *ʿilm al-lughah al-ʿArabīyah*. Dār al-ʿilm lil malāyīn, Beirut.

..... (1978): *al-lughah al-ʿArabīyah ʿabra al-qurūn*. Dār al-thaqāfa, Cairo.

al-Hilālī (1986): "Manhajīyat wadhʿ al-mustalahāt al-tibbīyah", *al-Lisān al-ʿArabī*, No. 27, 93-104.

Hitti, Philip; (1970): *History of the Arabs*. Tenth Edition, Macmillan Education Ltd.

Hockett, Charles, F. (1958): *A Course in Modern Linguistics*. The Macmillan Company, New York.

Hourani, Albert (1983): *Arabic Thought in the Liberal Age (1798-1939)*. Cambridge University Press.

Hudson, R.A. (1980): *Sociolinguistics*. Cambridge Textbooks in Linguistics.

Husain, Moḥammad A. (1353 (A.H.)): *al-qiyās fī al-lughah al-ʿArabīyah*. al-maṭbaʿah al-Salafīyah, Cairo.

Hymes, D. (1964): *Language in Culture and Society*. A Harper International Edition. N. 4. Harper and Row.

InfoTerm (1984a): *Infoterm Newsletter*, No. 31.

InfoTerm (1984b): "International Network for Terminology (TermNet)", *InfoTerm Series*, No. 3.

ʿIssā, Aḥmad (1923): *al-Taḥdīb fī usūl al-taʿrīb*. Maṭbaʿat Miṣr, Cairo.

ʿIssawi, Charles (1967): "European Loan-Words in Contemporary Arabic Writing: A Case Study of Modernisation. *Middle Eastern Studies*, London, 3/2, 110-33.

al-ʿĪssāwī, Shākir, T. (1976): "al-qiyās al-lughawī wa ahammīyatuhu fī tatwīr al-lughah", *al-Lisān al-ʿArabī*, No. 14, 23-52.

Itayyim, M. A. (1986): "Ihtimāmāt al-munazzamah al-ʿArabīyah lil muwāsafāt wa al-maqāyīs, wa anshitatuha fī majāl al-mustalahāt", in *Nadwat al-taʿāwun al-ʿArabī fī majāl al-mustalahāt ʿilman wa tatbīqan. Mulakkkhasāt al-buhūth wa waraqāt al-ʿamal al-muqaddamah fī al-nadwah*, ed. al-maʿhad al-qawmī lil muwāsafāt wa al-mulkiyah al-sināʿīyah. Tunis.

al-Jābrī, Muḥammad, A. (1986): *Binyat al-ʿaql al-ʿArabī*. Markaz dirāsāt al-waḥdah al-ʿArabīyah, Beirut.

Jawād, Mustafā (1955): *al-Mabāḥith al-lughawīyah fī al-ʿIrāq*. Maʿhad al-dirāsāt al-ʿArabīyah al-ʿāliyah, Cairo.

al-Jawālīqī, Mawḥūb ibn Aḥmad (1969): *al-Muʿarrab min al-kalām al-aʿjamī*. Second Edition. Ed. Aḥmad Muḥammad Shākir, Cairo.

Jespersen, Otto (1938): *Growth and Structure of the English Language*. Oxford.

- (1959): *Language, Its Nature, Development and Origin*. London.
- Jeffery, Arthur (1938): *The Foreign Vocabulary of the Qur'ān*. Baroda, The Oriental Institute, India.
- al-Jindī, Anwar (n.d.): *al-lughah al-'Arabīyah baina humātiḥā wa khuṣūmiḥā*. Maṭab'at al-Risālah, Cairo.
- ibn Jinnī (1952): *al-khaṣā'is*. 1, Cairo.
- (1954a): *al-munṣif*. Ed. Ibrāhīm Muṣṭafā and 'Abdullah Amīn. Cairo.
- (1954b): *sirr sinā'at al-i'rāb*. Ed. Muṣṭafā al-Saqqā, Cairo.
- (1955): *al-khaṣā'is*. Volume II, Cairo.
- al-Jubūrī, 'Abdallāh (1965): *al-majma' al-'ilmī al-'Irāqī: Nash'atuh, a'dhā'uh, a'māluḥ*. Maṭaba't al-'Ānī, Baghdad.
- al-Jumai'ī, 'Abdulmun'im A. (1983): *majma' al-lughah al-'Arabīyah: dirāsah tarīkhīyah*. al-Hai'ah al-Misrīyah al-'āmmah lil kitāb, Cairo.
- al-Karmalī, A. M. (1938): *Nushū' al-lughah al-'Arabīyah wa numūwuhā, wa iktihāluḥā*. al-maṭba'ah al-'aṣrīyah, Cairo.
- Kārūrī, Abdulmun'im (1983): Morphology: Between al-naḥw and al-taṣrīf. *Arab Journal of Language Studies*, 2, No. 1, 81-92. International Institute of Arabic, Khartoum, Sudan.

- al-Kassimi, A. (1975): *ʿilm al-lughah wa sināʿat al-muʿjam*. King Saud University, Riyadh, Saudi Arabia.
- (1979): "Problems of Technical Terminology in Arabic" in *(Dictionaries and Their Users*. Ed. Hofmann, Reinhart & Rodolf Kart. University of Exeter, 111-118.
- (1980a): "al-mustalahīyah (ʿilm al-mustalahāt), al-nazarīyah al-ʿāmmah li wadhʿ al-mustalahāt wa tawhīdihā wa tawthīqihā. *al-Lisān al-ʿArabī*. No. 18, 7-20.
- (1980b): "Towards a Central terminological data bank in the Arab world. *al-Lisān al-ʿArabī*, No. 18/1.
- (1984): "Takhtīt al-siyāsah al-lughawīyah fī al-waṭan al-ʿArabī wa makānat al-mustalah al-muwahḥad". *al-Lisān al-ʿArabī*, No. 23, 47-52.
- (1986): "al-mustalah al-muwahḥad wa makānatuhū fī al-waṭan al-ʿArabī", *al-Lisān al-ʿArabī*, No. 27, 81-91.
- (1987). "nahwa tatwīr bunūk al-mustalahāt", *al-Lisān al-ʿArabī*, No. 28, 77-83.
- al-Kawākibī, Muḥammad S. (1964): "al-naḥt wa al-mustalahāt al-ʿilmiyah", *majallat al-majmaʿ al-ʿilmi al-ʿArabī*, 39/3-4, 507-509, 675-686.

- al-Khafājī, Shihāb al-Dīn (1952): *Shifā' al-ghalīl, fī mā fī kalām al-'Arab min al-dakhīl*. Ed. Muḥammad . Khafājī, al-Matba'ah al-Muniriyyah, Cairo.
- Khalīfah, 'Abdul Karīm (1975): "Wasā'il tatwīr al-lughah al-'arabiyyah", *al-Lisān al-'Arabī*, No. 12, 50-62.
- Khalīl, Hilmī (n.d.): *al-muwallad: dirāsah fī numūw wa tatawwur al-lughah al-'arabiyyah fī al-'asr al-hadīth*. al-Hay'ah al-Misriyyah al-'āmmah lil kitāb, Alexandria, Egypt.
- (1978): *al-muwallad: Dirāsah fī numūw wa tatawwur al-lughah al-'Arabiyyah ba'd al-Islām*. al-Hay'ah al-Misriyyah lil kitāb, Alexandria, Egypt.
- Kharma, Nāyif (1978): *Adhwā' 'alā al-dirāsāt al-lughawīyah al-mu'āsirah*. 'ālam al-ma'rifah, Kuwait.
- al-Khateeb, A. S. (1982): "manhajiyat wadh' al-mustalahāt al-'ilmiyyah al-jadīdah, ma'a tarjamah li al-sawābiq wa al-lawāhiq al-shā'i'ah", *al-Lisān al-'Arabī*, No. 19, 37-66.
- al-Khūli, Amīn (1965): *mushkilāt hayātinā al-lughawīyah*, Dār al-ma'ārif, Cairo.
- al-Khūli, M. A. (1982): *A Dictionary of Theoretical Linguistics, English-Arabic*. Librairie du Liban, Lebanon.

- al-Khūrī, S. (1987a): "al-tanmiyah al-lughawīyah, wa dawr al-ishtiqāq fihā", *al-Lisān al-‘Arabī*, No. 29, 9-21.
- (1987b): "Ta‘rīb al-ta‘līm al-ṭibbī wa al-saidalī fī al-waṭan al-‘Arabī", *al-majallah al-‘Arabīyah li al-thaqāfa*, Seventh Year, vol. 12, 88-109.
- Krommer, Benz. M. (1976): *World guide to Terminological Activities*, (München K. G. Sauer).
- Landau, Jacob M. (1959): *A Word Count of Modern Arabic Prose*. American Council of Learned Societies, New York.
- Langacker, R. W. (1967): *Language and Its Structure: Some Fundamental Linguistic Concepts*. Harcourt Brace & World Inc., U.S.A.
- Lewis, Bernard (1977): *The Arabs in History*. Hutchinson University Library.
- al-Lisān al-‘Arabī* (1970): "al-nizām al-ta’sīsī lil maktab", *al-Lisān al-‘Arabī*, No. 7, 395-397.
- (1971): "Mashrū‘ al-nizām al-asāsī li ittiḥād al-majāma‘ al-lughawīyah al-‘ilmīyah al-‘Arabīyah", *al-Lisān al-‘Arabī*, No. 8, 540-541.
- (1979): "akhbār maktab tansīq al-ta‘rīb", *al-Lisān al-‘Arabī*, No. 17, 324-333.

- (1980): "Nadwat tawhīd manhajīyāt wadh' al-
mustalah al-'ilmī al-'Arabī", *al-Lisān al-'Arabī*,
No. 18, 175-178.
- (1984): "Mu'jam mufradāt 'ilm al-mustalah", *al-
Lisān al-'Arabī*, No. 22, 201-213.
- (1985): "al-sawābiq wa al-lawāhiq (iqtirāhāt
ittihād al-atibbā' al-'Arab", *al-Lisān al-'Arabī*,
No. 24, 189-201.
- (1987): "nadwat al-ta'āwun al-'Arabī fī majāl
al-mustalahāt 'ilman wa tatbīqan", *al-Lisān al-
'Arabī*, No. 28, 269-276.
- abū-Lughod, Ibrāhīm (1963): *Arab Rediscovery of Europe:
A Study in cultural Encounters*. Princeton
(Princeton University Press).
- Lyons, John (1968): *Introduction to Theoretical
Linguistics*. Cambridge University Press.
- (1981): *Language and Linguistics: An
Introduction*, Cambridge University Press.
- al-Maghribī, 'Abd al-Qādir, M. (1947): *kitāb al-ishtiḳāq
wa al-ta'rīb*. Maṭba'at lajnat al-ta'līf wa al-
tarjamah wa al-nashr, Cairo.
- al-Ma'had al-qawmī lil muwāsafāt wa al-mulkiyah al-
sinā'iyah. Ed. (1986): *Nadwat al-ta'āwun al-'Arabī
fī majāl al-mustalahāt 'ilman wa tatbīqan.
Mulakhkhasāt al-buhūth wa waraqāt al-'amal*. Tunis.

Majma' (1971): *Majma' al-lughah fī thalāthina 'āman*.

Majma' al-lughah al-'Arabīyah, Cairo.

al-Makhzūmī, Mahdī (1964): *fī al-naḥw al-'Arabī, naqd wa tawjīh*. Beirut.

al-Malā'ikah J. (1985): "fī asālīb ikhtiyār al-mustalah al-'ilmī wa mutataḥabāt wadh'ihi", *al-Lisān al-'Arabī*, vol. 24, 35-40.

..... (1986): "al-mustalah al-'ilmī wa waḥdat al-fikr", in, *al-lughah al-'Arabīyah wa al-wa'y al-qawmī*, Ed. Markaz dirāsāt al-waḥdah al-'Arabīyah, Beirut.

..... : (1987): "The Artificial Difficulties in Arabization", *Arab Affairs*, Volume I, No. 4, 66-74.

al-Malā'ikah, Nāzik (1974): *al-Tajzī'īyah fī al-mujtama' al-'Arabī*, 1st Edition, Dār al-'ilm lil malāyīn, Beirut.

ibn Manzūr (1955-56): *Lisān al-'Arab*, 15 volumes, Beirut.

al-Maqdisī, Anīs (1965): "al kalām al-muwallad fī ma'ājiminā al-ḥadīthah", *majallat al-majma' al-'ilmī al-'Arabī*, 40/1, 171-186.

Markaz dirāsāt al-waḥdah al-'Arabīyah. Ed. (1982): *al-Ta'rīb wa dawruhu fī tad'īm al-wujūd al-'Arabī wa al-waḥdah al-'Arabīyah (Nadwah)*, Beirut.

- Ed. (1986): *al-lughah al-‘Arabīyah wa al-wa‘y al-qawmī (Nadwah)*, Beirut.
- Matthews, C. M. (1979): *Words*, Lutterworth Press, London.
- Matthews, P. H. (1974): *Morphology: an Introduction to the Theory of Word-Structure*. Cambridge University Press.
- Minajian, K. (1972): "al-naḥt qadīman wa ḥadīthan", *al-Lisān al-‘Arabī*, No. 9, 162-179.
- Mitchell, T.F. (1962): *Teach Yourself Colloquial Arabic*. Teach Yourself Books, Hodder and Stoughton, Ltd..
- Monteil, V. (1968): "The Problem of Modernisation of Arabic" in *The Modernisation of Languages in Asia*, Papers presented at the Conference of the Malaysian Society of Orientalists, held in Kuala Lumpur from 29th of September Until Last of October 1967. (ed.) Takdir alisjahbna. Kuala Lumpur. Malaysia. *Society of Asian Studies*, 344-50.
- al-Mubārak, Muḥammad (1972): *fiqh al-lughah wa khaṣā‘is al-‘Arabīyah*. Dār al-Fikr, Beirut.
- al-Mughnim, Muḥammad (1985): "Mas‘alat al-sawābiq wa al-lawāḥiq, wa turuq mu‘ālatihā", *al-Lisān al-‘Arabī*, No. 24, 95-102.
- Nedobity, W. (1984): "Terminological Activities in the Arab World", *InfoTerm Series*, 9.

- Nida, E. (1967): *Morphology, the Descriptive Analysis of Words*. Second Edition, the University of Michigan Press.
- Panahy, M. A. (1971): "Ways and Methods of Word Buildings of Arabic Terms", *al-Lisān al-ʿArabī*, No. 8, XXVII-XXX.
- Qāsim, Riyādh (1982): *Ittijāhāt al-baḥṭh al-lughawī al-ḥadīth fī al-ʿālam al-ʿArabī*. Two volumes, Mu'assasat Nawfal, Beirut.
- al-Qāsimī, Zāfir, (1965): "Muṣṭalahāt shidyāqīyah" *Majallat al-majmaʿ al-ʿilmī al-ʿArabī*, Damascus, 40/2, 430-451.
- al-Qazzāz, A. J. (1981): *al-Dirāsāt al-lughawīyah fī al-ʿIrāq*, Manshūrāt wizārat al-thaqāfah wa al-iʿlām, Baghdad.
- Robins, R. H. (1980): *General Linguistics. An Introductory Survey*. Longman Group Ltd..
- Sābir, Muḥyiddīn (1982): "al-Abʿād al-ḥadhārīyah lil taʿrīb". in, *al-taʿrīb wa dawruh fī tadʿīm al-wujūd al-ʿarabī wa al-waḥdah al-ʿarabīyah*. Ed. Markaz dirāsāt al-waḥdah al-ʿArabīyah, Beirut.
- 1987): "al-taʿrīb wa al-muṣṭalah. *al-Lisān al-ʿArabī*, No. 28, 9-16.

- Ṣaīd, Mājid Farḥān (1967): *Lexical Innovation Through Borrowing in Modern Standard Arabic*. Princeton Near East Papers, No. 6, Princeton University.
- al-Ṣāliḥ, Subḥī (1986): *dirāsāt fī fiqh al-lughah*. Dār al-ʿilm lil malāyīn, Beirut.
- al-Sāmarra'i, Ibrāhīm (1964): *Rasā'il fī al-lughah*. Baghdad.
- (1966): *al-Tatawwur al-lughawī al-tārīkhī*. Ma'had al-Buḥūth wa al-dirāsāt al-ʿArabīyah, Cairo.
- (1973): *Tanmiyat al-lughah al-ʿArabīyah fī al-ʿasr al-ḥadīth*. Ma'had al-Buḥūth wa al-dirāsāt al-ʿArabīyah, Cairo.
- (1983): *Fiqh al-lughah al-muqāran*. Dār al-ʿilm lil malāyīn, Beirut.
- al-Samman, Wajeeh (1974): "Jawānib al-diqqah wa al-ghumūdh fī al-mustalah al-ʿilmī al-ʿArabī al-ḥadīth", *al-Lisān al-ʿArabī*, No. 11, 302-310.
- Samūd, N. (1976): "al-Mu'arrab wa al-dakhīl dharūriyān li izdihār al-lughah", *al-Lisān al-ʿArabī*, No. 14, 186-193.
- al-Sārah, Qāsim (1989). "Ta'rib al-mustalah al-ʿilmī, ʿĀ lam al-fikr, 19, No. 4, 81-128.
- al-Sayyādī, Moḥammad, al-Munjī (1982): "al-Ta'rib fī al-waṭan al-ʿArabī" in *al-Ta'rib wa dawruhu fī tad'īm*

- al-wujūd al-‘Arabī wa al-wahdah al-‘Arabīyah* (ed.).
Markaz Dirāsāt al-Wahdah al-‘Arabīyah, Beirut.
- (1985): *al-Ta‘rīb wa tansīquhu fī al-waṭan al-‘Arabī*. Markaz Dirāsāt al-Wahdah al-‘Arabīyah, Beirut.
- Shaheen, Abdul Ṣabour (1986): *al-‘Arabīyah, lughat al-‘ulūm wa al-tiqnīyah*. Dār al-i‘tisām, Cairo.
- Shaheen, Tawfiq M. (1980): *‘Awāmil tanmiyat al-lughah al-‘Arabīyah*. Cairo.
- Shammām, M. (1976): "Tārīkh al-majāmi‘ al-lughawīyah fī al-‘ālam al-‘Arabī", *al-Lisān al-‘Arabī*, No. 14, 194-212.
- al-Shayyāl, Jamāl al-Dīn (1951): *Tārīkh al-Tarjamah*. Cairo.
- al-Shihābī, Muṣṭafā (1955): *al-Muṣṭalahāt al-‘ilmīyah fī al-lughah al-‘Arabīyah fī al-qadīm wa al-ḥadīth*. Ma‘had al-Dirāsāt al-‘Arabīyah al-‘āliyah, Cairo.
- (1959): "Madā al-naḥt fī al-lughah al-‘Arabīyah", *Majallat al-majma‘ al-‘ilmī al-‘arabī*, 34/4, 545-554.
- (1965a): "Tawḥīd al-Muṣṭalahāt al-‘ilmīyah al-‘Arabīyah", *Majallat al-majma‘ al-‘ilmī al-‘arabī*, 40/3, 537-545, Damascus.
- (1965b): 'Ārā' wa anbā'", *Majallat al-Majma‘ al-‘ilmī al-‘arabī*, 40, 410-412.

- (1965c): "Sawānih fī al-lughah wa al-mustalahāt, *Majallat al-Majma' al-ʿilmi al-ʿarabi*, 40/2, 361-68.
- Shouby, E. (1951): "The Influence of the Arabic Language on the Psychology of the Arabs", *Middle East Journal*, 1951, 284-302.
- Sībawayh (1316 A.H.): *al-Kitāb*, Two volumes. al-Matbaʿah al-Kubrā al-Amīriyah. Būlāq, Cairo.
- Sieny, Maḥmūd I. (1986): "BASM: The Saudi Terminology, Data Bank" in *Studies in Machine Translation*. Ed. al-ʿĀni and Sieny, King ʿAbdul ʿAzīz city For Science and Technology. Riyadh, Saudi Arabia.
- Skeat (1912): *The Science of Etymology*. Oxford.
- Smeaton, B. H. (1973): *Lexical Expansion Due to technical Changes: as Illustrated by the Arabic of al-Ḥasā, Saudi Arabia. During the Decade 1938-48*. Indiana University Publication Language Science Monographs. No. 10 Bloomington. Indian University Press.
- Stetkevych, J. (n.d.): *al-ʿarabiyyah al-fuṣḥā al-hadītha*. Translated with Comments by Muḥammad Ḥasan ʿAbdul ʿAzīz. Dār al-Nimr lil tibāʿah, Cairo.
- (1970): *The Modern Arabic Literary language, Lexical and Stylistic Development* • University of Chicago Press.

- Suleiman, M. Y. (1983): "al-turāth al-lughawī al-‘Arabī wa al-dirāsāt al-lughawīyah al-ḥadīthah" *al-Lisān al-‘Arabī*, 21, 31-35.
- Suwaisī, M. (1976): "Khawātir ḥawla wadh‘ al-lughah al-‘Arabīyah", *al-Lisān al-‘Arabī*, No. 14, 176-180.
- al-Suyūṭī (1986): *al-Muzhir fī ‘ulūm al-lughah wa anwā‘ihā*. Two volumes. al-Maktabah al-‘asrīyah, Beirut.
- Tarzī, Fuād (1968): *al-ishtiqaq*. Beirut.
- al-Tha‘ālībī, Abū Mangūr I. (n.d): *Fiqh al-lughah wa sirr al-‘Arabīyah*. Dār al-kutub al-‘il miyah. Beirut.
- Thalji, Abd-El-Majid (1988): "the Morphology of the Arabic Verb: The Derivational & Inflectional Paradigms", *al-Abḥāth*, vol. XXXVI, 81-100, Beirut.
- al-Thubaitī, M (1987): *al-Marāji‘ al-mu‘jamīyah al-‘Arabīyah, uhādīyat al-lughah wa thunā‘īyat al-lughah, wa muta‘addidat al-lughāt*. King Saud University, Riyadh, Saudi Arabia.
- ‘Ubaid, A. (1986): "Tadrīs ‘ilm al-mustalahāt fī al-waṭan al-‘Arabī. Tajribat ma‘had Bourguiba lil lughāt al-ḥayyah", in *Nadwat al-ta‘āwun al-‘arabī fī majāl al-mustalahāt ‘ilman wa tatbīqan; Mulakhkhasāt al-buḥūth wa waraqāt al-‘amal al-*

- muqaddamah fī al-nadwah*. Ed. al-Ma'had al-qawmī lil muwāsafāt wa al-mulkiyah al-sinā'iyah, Tunis.
- Ullmann, S. (1975): *Words and Their Use*, Arabic translation by Kamāl Bishr; *Dawr al-kalimah fī al-lughah*. Maktabat al-Shabāb, Cairo.
- Umar, Ahmad M. (1982): *al-Baḥṭh al-lughawī 'ind al-'Arab*. 'ālam al-kutub, Cairo.
- Versteegh, C. H. M. (1977): *Greek elements in Arabic Linguistic Thinking*. Leiden, E.J. Brill.
- Wāfī, A. A. (n.d): *Fiqh al-lughah*. Dār nahdhat Miṣr li al-tab' wa al-nashr, Cairo.
- Weinreich, Uriel (1957): "On the Description of Phonic Interference", *Word*, 13, No. 1, 1-11.
- Wehr, Hans. (1976): *Arabic-English Dictionary*. spoken Language Services Inc.
- Wizārat al-Shu'oun al-Thaqāfiyah (1978): *Tanmiyat al-lughah al-'arabiyyah fī al-'asr al-ḥadīth, dirāsāt al-multaqā al-rābi' li ibn Manzūr*, Qafṣah, 22-25, April 1976, Tunis.
- Wright, W. (1967): *A Grammar of the Arabic Language*. Third Edition, Cambridge University Press.
- al-Yāfī, A. (1978): "Tajribatī fī ta'rīb al-mustalahāt al-'ilmīyah", *Majallat al-majma' al-'ilmī al-'arabī*, Damascus, No. 52/4.

- (1988): "Mushkilāt al-tarjamah wa al-ta'rib allatī tuwājihuhā al-thaqāfah al-'Arabīyah", *Majallat al-majma' al-'ilmī al-'arabī*, 63/2, 165-214.
- Ya'qoub, E. B. (1982): *Fiqh al-lughah al-'Arabīyah wa khasā'iguhā*. Dār al-'ilm lil malāyīn, Beirut.
- Zaydān, J. (1982a): *al-falsafah al-lughawīyah wa al-alfāz al-'Arabīyah*. Dār al-Hadāthah, Beirut.
- (1982b): *al-lughah al-'Arabīyah kā'inun hay*. Dār al-jīl, Beirut.
- Zāzā, Hasan T. (1976): *Kalām al-'Arab*. Dār al-Nahdhah al-'Arabīyah, Beirut.
- Zgusta, L. (1971): *Manual of Lexicography*. Juana Linguarum Series Major, 39, Academia, Mouton, Paris.